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PEABODY JOURNAL OF EDUCATION

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PESTALOZZI AND HERBART[1]

DR. WILHELM REIN
University of Jena

There was a time when teachers were faced with the question, Pestalozzi or Herbart? That is past and gone. The truth of history has settled the matter. It has united Pestalozzi and Herbart, in spite of contrasts, as it did Schiller and Goethe. The relations between Pestalozzi and Herbart are simple and transparent. John Frederick Herbart is the younger man who stands on the shoulders of the elder. As a private teacher in Berne, he came into such close touch with the noble Swiss that his first literary efforts were completely absorbed in Pestalozzi, and he may well be called a "Pestalozzian."

In their deeper nature they were in harmony in spite of differences in origin, in the external life conditions in which they grew up, and in the circles in which they labored. The dark-skinned Pestalozzi, because of his slovenly, disordered appearance, was made sport of on the street. Once, as William Schafer relates, he was even arrested as a tramp, before the gates at Berne, and thrown into the poorhouse. Herbart, on the other hand, was a man noble of appearance, reserved in manner, and remarkably clear and definite in his mode of expression. Pestalozzi was of a lively, responsive temper; he had to struggle hard to express himself; he was easily influenced by his surroundings, and, in consequence, was often misled in his judgment of persons and relations. Each one's course of life was distinctly different from the other's. Pestalozzi's life was full of inner and of outer

[1]A paper contributed to the celebration of the completion of fifty years of teaching by Professor Charles A. McMurry, of George Peabody College for Teachers.

conflicts. It was a succession of unsuccessful enterprises and of false hopes. On the other hand, Herbart's course of life was from the beginning financially secure, lived in philosophic quiet and in classic balance between the beautiful and the good—a life of happy contentment. There was no dramatic shifting of scenes; there were no abrupt changes in fortune, as in the life of Pestalozzi; nor was there conflict between him and his students and colaborers. His life ran its course, without shattering blows of fortune, in that quiet and retirement which is the best encouragement to philosophic thought. In spite of this quietness in his own existence, however, Herbart experienced the tragedy of life more keenly than did Pestalozzi from the point of view of immediate results. He did not live to see the fruits of his labor, while Pestalozzi's name, because of the popularity of his story, "Leonard and Gertrude," was in his own lifetime a household word in cottage and palace. In Queen Louise Pestalozzi found an enthusiastic devotee, and Fichte was his eloquent advocate. The pedagogical world made a traveled road to Ifeiton, and a host of pedagogical writers were active for him in his propaganda. Napoleon alone seemed to find nothing in him.

But Herbart, with oncoming age, was left more and more alone, after he had carried on a hopeless battle against the prevailing philosophy of his time—the thought of Fichte, of Schilling, and of Hegel. Governments and churches passed by his pedagogy as revolutionary. It was only after his death that the leaven of his ideas began to work among his fellow craftsmen, to awaken life in a group of followers, and to influence science and the social order. Even at the turn of the century Herbart's influence was confined mainly to a somewhat narrow circle of those who devoted themselves to serious study. Pestalozzi remained a living force in wide circles, reaching far beyond the limits of Germany. And yet Herbart's activities have had a considerable influence in modern progressive states upon law making and upon literary development.

What was it that brought these two men together? Herbart felt drawn to Pestalozzi because he found in him the same ethical determination and groundwork which was his own inspiration. In practical philosophy Herbart confessed himself a follower of Kant. Pestalozzi lived on the same plane. Both found themselves at home in Kant, the seer of Königsburg. Pestalozzi's birthday speech in the year 1818 is sufficient proof of this. The growth of human powers rests upon rational conformity to law. Their common determination rests upon ethical laws. The principles of method are based upon law. The principles determining aims are ethical. The same course

of thought is followed by Herbart, and in it he supplements his predecessor in a convincing manner.

Pestalozzi had never tried to mold into a philosophic form the principles determining aims. In close association with the morality of Jesus, he kept in mind a religious morality. In his effort toward the complete development of human powers he sought to secure the inner unity between these powers and to combine the idea of moral freedom with the idea of completeness or perfection. The sympathetic feelings which develop within the family circle are to him the roots of morality which finds in the love of one's neighbors, of one's fellow men, its highest expression. Similarly in the center of Herbart's ethical system stands the idea of good will, the unselfish devotion to the welfare of one's neighbors. His ethic flows from the same source as the moral theory of Jesus. As a philosophic thinker, he gives this theory a distinct signature and an association of unity between a number of ethical ideas which serve as standards for the determination of the will. Therein he unites with Kant, who proclaims the good will as the single and highest aim of all right living, upon whose power the work and worth of human kind depends.

Pestalozzi, like Herbart, sets moral virtue as the capstone of his whole system. The common element in the two pedagogues may be recognized in this: that the aim of moral culture is found in maxims—i. e., not in theoretical principles, which are matters of memory, but in fundamentals, which are matters of the heart. In Pestalozzi, as in Herbart, with variations in detail, everything depends upon the growth of strong, upright characters or personalities. In this the two thinkers are still today standard and representative, and in no wise obsolete. Would that in our time, with its sickly sentiments of relativity, men would listen to them! For, in the end, the moral qualities of men who are leaders must determine the direction of national life.

The new times give us no new ideal of education that stands higher than that pointed out by Pestalozzi and Herbart. In the idea of moral character development they manifested a greatness that will outlast changes in time, although in our day they may seem to suffer an eclipse.

The grand ethical foundations laid by Pestalozzi and Herbart should indicate to the educators of our generation the road that leads to the true welfare of our people. Here teachers may discover a standing ground, solid and permanent, against all that is wavering and problematic.

In like manner the psychological principles which these two masters represent are of special importance. Only to a superficial view do

the two leaders seem to be in their psychology antipodal. In general, Pestalozzi seems at first to be an adherent of the faculty psychology. Herbart upsets this theory. His theory of a fundamental unity in psychical activity has maintained itself successfully against the opposing view that would trace back all mental activities to a plurality of independent, separately existing faculties of the soul. It is, however, Pestalozzi's use of language, rather than his thought, that at first might mislead us to the conclusion that he cherished this faculty theory. Back of his use of language is the conviction that all the powers of the soul are constituent parts of one inseparable whole. He emphasizes their inner connection and gives prominence to the causal interchange between thoughts, feelings, and impulses. In this he is in harmony with Herbart's conceptions; that he was captivated with Herbart's psychology is fully confirmed by von Richthofen. Therein he found a description of the psychical mechanism which agreed precisely with his own observations and experiences. This line of thought led on to pedagogical regulations which were gladly accepted by the teaching world, because the fruitfulness of these psychological conceptions for pedagogical practice was soon recognized.

The deeper study of the works of Pestalozzi and Herbart can still today inspire the educator with that kind of devotion which is needed for the difficult task of training youth. A more thorough investigation of these men than it is customary nowadays to give will convince us that through all the latter-day changes in social and political conditions, with their different tendencies, great unifying, constructive ideas are at work, which restore the connection of historical development and, being timeless, hold the mastery of our times also. This suggests an invaluable boon for present-day thought. Ours is an age which has no equal in the respect of wealth of proposed educational schemes in the midst of a distracted civilization. It carries within it the danger of being lost in its own superfluity. That this fate may not happen, a full, thoughtful re-acquaintance with these two great educators may serve to reëstablish our bearings. They were born in the eighteenth century; they drew the nineteenth powerfully under their influence; they have reached into the twentieth with undiminished significance. Even our ultra-modern century, with its insistence upon uniqueness and its great social confusion, is dependent upon them—upon Pestalozzi, great educator of the common folk, and Herbart, in whose science of social ethic Pestalozzi's ideas are wonderfully clarified, systematized, and combined.

A BETTER SOCIAL UNIT FOR AMERICAN SCHOOLS

P. K. PLATTS
Fort Pierce, Fla.

The influence of the past is naturally perpetuated by the close association together of individuals of different ages. Superstitions and fears are thus handed on, but thus also are generated in the young principles of reverence, responsibility, duty, loyalty, and accepted standards of conduct. It could hardly be otherwise. In the historical development of America there has been a confluence of powerful forces to break down conservatism of life. Influences which, in other nations, strongly mold youth to fit happily into the continuity of family and of national ideals are in America hardly operative. Nor have American schools made any considerable progress toward counteracting this undesirable, though perhaps necessary, over-emphasis laid by external conditions on individualism at the expense of a discriminating adherence to tradition. Indeed, the influence of the schools is positively otherwise—not only in certain doctrines and perhaps ways of teaching, but also in two fundamental respects of organization and extent. The highly organized graded system of schools prevents the association of younger with older children. Pupils are completely segregated, practically in age groups. This is even carried on, one may assert, beyond the needs of graded instruction. Furthermore, because the length of the period of schooling of each child is already great and is constantly becoming greater, the opportunity which he has for conservative, steadying contact with older persons—adults or older children—not only is little, but even is becoming less. Deeply inherent in our much-prized American system is education for Bolshevism, for a disregard for conservative principles.

CHANGES IN CONDITIONS OF LIFE ISOLATE US ALL

If Americans were engaged in home industries, as they were a hundred or so years ago, what the schools do, or do not do, in this respect would not make much difference. In home life such as then existed, each member of the household had duties that required doing; each member was himself needed. A family was an integrated working unit. In this home life the real acquaintanceship of the individuals,

their working together, their mutual interdependence, their sharing of life, knit the generations together. But now the most of us have moved from a farm to a flat. Our life is citified, even in the country. The whole trend of our existence is toward segregating us to individualism or into narrow, specialized social groups. Quite separate duties, interests, and pleasures pull father and mother, brother and sister, older and younger, out of the home, each into a different sphere. Nowadays it is difficult to arrange even for family meals at home; it is almost impossible for all to sit down together. Only a little while ago the family table, three times a day, could at least be counted on. Now even this is gone.

COMMUNITY LIFE IN THE OLD COUNTRY SCHOOL

Once upon a time the American boy went to school with his brothers and sisters. Can you see them straggling along a roadside path—chasing, racing, loitering? If sometimes a small one is not able to keep up, do the others—with the ring of her protesting wail in their ears, or the sight of her quiet, heart-broken weeping in their eyes—ever actually go on and leave her? On the way to school clan meets clan, in utter friendship, or guarded, or truced, or open hostility. Behold the leader of the clan, the doughty champion thereof! Although circumstances may compel him to make strategic detours and maneuvers in the face of overwhelming odds, surely he never deserts his charges.

At school, in those days, the brothers and sisters sat in the same room, often sharing the same books. Not only did the older children see what the younger were doing, but the younger were quite capable of criticizing what the older ones did. Neither could any be quite indifferent to such criticism, because the family bond was felt. And criticisms were prone to go higher; in the evening the younger generation learned straightway the point of view of an older. If the teacher appeared in the light of a common enemy, how it united the school! Against the common enemy, or on the playground, leadership was found in those boys who had fought their way to the top. Each boy might hope to be the biggest boy in school some day and one of the worshiped leaders.

In such a society traditional standards obtain, and are woven into the warp and woof of feeling and conscience. These standards and a deep regard for duty become fundamental in one's make-up. In such a society one generation is never a law unto itself, because the generations are welded together inseparably.

THE SEGREGATION OF TODAY

Today an American boy goes to one school, and his brothers and sisters, very likely, go to different schools. Arrived at school as a beginner, he is placed in a group of children of approximately the same age and stage of development. In this group he experiences the adventure of growing up; it is henceforth the major influence in his school life. What does an analysis of his situation show? It shows that the public opinion most effective upon the group and within the group is that of the group itself, for contact with other groups, ages, and points of view is too distant to be effective. Eventually, in this restricted atmosphere, the group becomes blatantly self-sufficient in its own mind, the one mind it understands; and, not understanding the points of view, the wisdom, and the sincerity of teachers and of parents, it becomes exceedingly impatient of restraints imposed by them.

It is also true that the American school of today does not provide opportunity for the boy to respond to the needs of a younger child. At best, there is no compulsion to responsibility, and responsibility is easily avoidable.

Thirdly, those who are leaders of groups of their fellows become leaders with no adequate apprenticeship. They have never learned loyalty. They have never been trained to be followers. They are not disciplined for the responsibilities of leadership. They began their reigns in the early years, without having striven with strong rivals for place. It is doubtful if leadership so easily and early obtained can bring out the best in the leader. Nor is it good for the group. Not an adult companion, not the teacher who comes and goes, not one of their own number who first, however, absorbed lessons as a follower, but an unproved, spectacular individual within it, becomes the effective leader of the group.

But to what extent, it may be asked, is a teacher a personal leader to his pupils? In the first few years a teacher may be a great influence in a group. But our graded system insures that this will be only for as much as a semester at a time, at most for a year. And in the later years of a pupil's school life the point will be reached where he is perhaps influenced directly by one teacher for no more than a period a day for a semester or a year. And whatever influence is thus exerted must function in the face of the formality of classroom work. A young teacher remarked recently that she never cares to meet one of her pupils outside of school, that she has no interest in them. Questioning brought out the fact that she had felt differently at first, but after teaching some three hundred pupils a day in thirty-minute class

periods, she had at last come to regard pupils as mere cogs in the machinery. Such is the penalty of our elaborately devised systematic instruction of the American multitudes.

WHAT CAN WE DO?

So, all too often, the high-school pupil in the larger schools is untrammelled by tradition or by an effective feeling for conventional standards of conduct; he has no standards, no principles representative of the world of adults. His own sweet will and the opinion and direction of his group alone are law unto him. "Ought" is a word whose meaning is outside his experience. Yet it is true that the youth of today are inherently of the same noble, unselfish, service-loving human stuff as were the past generations. We who think about education must recognize that the conditions of life prevailing today never existed before. When we find all the environmental factors which surround young people apparently in confluence operating destructively upon ideals which we cherish, we must seek to establish in the school opposing principles to balance the destructive elements in the environment. Practically we have little control of any factors outside the school, however bad their influence may be.

It is to be strongly suggested that, as a part of the endeavor toward this desirable end, there is need for the school to provide to the highest degree possible for the living together of pupils of different grades—for their living together in a natural society (now, in our graded schools, quite overlooked) in such a way that:

(1) The best traditions, conventions, and standards of the race may be transmitted in a vital way from older to younger individuals;

(2) Public opinion within a group of children of about the same age and experience may be influenced by the points of view of groups of different ages and experience;

(3) There will be bearing upon each individual compelling demands upon the latent capacity for responsibility;

(4) Leaders may be prepared by graduating first from a course in learning how to be good followers, and may advance ordinarily into responsible leadership only through eager, noble competition with other candidates;

(5) A strong teacher may have a chance, by long and intimate acquaintance with the same pupils, to exert an enduring influence.

THE ENGLISH "HOUSE" SYSTEM

In England there is a group of schools celebrated for the sterling citizenship of the men they turn out. These schools are called "pub-

lic schools," although they are not free government schools; hence, not "public" in the sense in which we use the term. They are attended by the upper classes; and perhaps it is because we Americans have given particular notice to this fact that we have made little effort to examine into what may really be the secret of the success of these schools—their "house" organization.

The English public school is usually a boarding school for boys. On entering the school, a boy is permanently assigned to a "house." This means much more than that he will have a room in that particular building. It will be, perhaps, the same "house" his father belonged to, the same to which his brothers belong. This "house," of thirty or forty boys from all the "forms," or "grades," as we would say, becomes the object of his very deep loyalty. It is the social and governmental unit of the school. Each "house" has its own organization, its teams, and its "house" master, who accepts the position as a more or less permanent assignment. Sir John Adams writes: "The community thus formed is worked on a sort of family plan, and all the boys get into touch with one another as they do in families. The system is excellent and works exceedingly well."

CONSERVATISM OF THE ENGLISH PUBLIC SCHOOL

A significant observation made on this public-school life is that it developes an extreme conservatism and attachment to tradition. Dr. J. J. Findlay brings out this point in a chapter on the English public school in *Types of Schools for Boys*.[1] He says, "Now, the public schools and the society to which they belong have sought to oppose the excess of precocity," which he observes in the youth of today, "by strengthening the influence of convention. Young people are more governed by social practice, by 'good form,' than their elders are, for the simple reason that they are learning how to live and they readily take on the pattern presented to them."

It was not long after England began to develop a system of free schools of secondary grade (a comparatively recent event) that schoolmen here and there began to feel the need of some "integrating influence," and naturally looked to the public school for a suggestion. Today, therefore, the "house" system, as adapted, seems to be quite popular in day schools in England.

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[1] M. V. O'Shea, editor. Bobbs-Merrill Co., 1917. Dr. Findlay introduced the House System in the High School, a day school, at Cardiff. He says of Cardiff that it is "more like an American city, both in its good and evil aspects, than any other community this side of the Atlantic." Upon his leaving Cardiff after five years' service, the parents petitioned the officials to continue his plans. See his article, "The Corporate Life of Schools," in the *School Review*, Vol. XV, pages 744-753, and Vol. XVI., pages 601-608.

THE "HOUSE" SYSTEM IN ONE ENGLISH SECONDARY DAY SCHOOL

Mr. C. Wheeler, headmaster of the Lower School of Lawrence Sheriff, Rugby, very kindly gave the writer of this paper the following detailed description of the operation of the "house" system in his school:

There are about three hundred boys in the school, ranging in age from somewhat more than nine years to somewhat less than eighteen.

The school is organized into four houses, of approximately seventy-five boys each. Every boy, on entering the school, is placed in a "house," in which he remains throughout his school life. Parents have the right of selection; thus an "old boy" asks that his son may become a member of his father's old "house."

If the parents express no choice, the boy is placed in a "house" according to a geographical division of the district served by the school. These divisions are not made too rigid, in case one "house" should become numerically too strong.

There is a different cap for each "house," the four caps being of the same design, but of different colors.

Boys who distinguish themselves in inter-house games may be awarded "house colors" by their "house" captains.

There are inter-house competitions in football, cricket, swimming, running, gymnastics, and steeple chasing. All these competitions are arranged so that the greatest possible number of boys can help their "houses." Thus, in the Sports Cup Competition, most of the races which count are relay races; and while the winners of the field events (open, under 16, under 14, under 12, and under 10½), win marks for their "house," any boy who runs the distance in a certain standard time, even if he is not placed in the race, counts marks for his "house."

In this way many a boy who would never win marks or distinction in athletics often very materially influences the destination of the Sports Cup.

In football and cricket each "house" runs two fifteens or elevens—senior and under 15—and they play, on the league system, the corresponding team of every other "house."

All trophies won by "house" teams or individuals are won for the "house," and are not taken home by the "house" captains or any other individual, but are placed in a "house" case. Each "house" has a case set in a place of honor in the assembly hall of the school.

Three years ago the Parents' Association connected with the school offered to give the school some trophy for inter-house competition, and it was finally decided to give a bronze laurel wreath, which is placed as a crown over the case of the "house" which wins it each year

and can claim to be the leading "house" in work and play. The boys decided the distribution of marks should be in the ratio of 3 to 2 for these two sections of school life.

There is a rather elaborate system by which every boy in the school receives a mark from the headmaster six times a year for his school work. These marks are based on the six half-termly reports sent to the parents.

A boy who gets V. G. for industry receives 18 marks for his "house."

The other marks are G., Q. creditable, creditable, moderate, fair, and bad, which count 15, 12, 9, 6, 3, and 0, respectively.

Thus everybody's work counts, and the keen "house" takes steps to stimulate the lazy boy.

Form prizes, special prizes, and other academic honors, all count fairly heavily.

This trophy seems to be proving an excellent focus for "house" spirit.

Regarding "house" masters, we are working to the ideal of making one senior master responsible for each "house." He should act as guide and friend to the boys in his "house," be in touch with parents, visit boys when absent through illness, and so on.

Each "house" elects its own head boy and games captain.

The aims and objects of the "house" system in our school are:

(1) To build up *esprit de corps* in every boy, however small or handicapped by lack of outstanding ability in work or play. (For some years the boy's enthusiasm is for his "house;" but as he passes up the school, he finds his visions and interest widen, and the unit become the school.)

(2) To make every boy realize he has to give something to his group, and that even if he doesn't wish to count he does count for good or ill.

(3) To put individualism in its proper place by fostering the community spirit.

The young boy at once feels he belongs to a group—not just of juniors, but one which contains boys of all standing in the school. In this way the spirit of responsibility is fostered.

His social unit remains the same throughout his school life.

A healthy and vigorous inter-house rivalry can be developed, and in the service of his "house" a boy must subordinate self.

THE "HOUSE" SYSTEM FROM THE BOYS' STANDPOINT

Mr. Wheeler was so interested in the writer's inquiries that he went to the trouble of having his Sixth Form boys write essays on the com-

parative advantages of the "house" and the "form" as the social unit in a day school. The account of the "house" system in this school would not be complete without the boys' viewpoint. Following are some of their ideas:[2]

The basis of the system is competition. "The whole life of a 'house' is spent in attempting to do better work or to play better games than the other houses of the school."

"With the form system it is impossible to have so much competition through difference in age. It would be impossible for a form whose average age is ten to play a form whose average age is fifteen."

"There is a far greater spirit of rivalry and competition in 'house' games than there is in the keenest school game, although it may not be such a stiff one."

"There are many systems which can be used in the 'house' which will enable the smallest boy to be of assistance to his 'house' in winning the 'house' trophy. The same system can be used in school work, for the same end. It gives a boy additional interest in his work if, by going up one place in form, he can add materially to the success of his 'house.' The small boy, on entering school, is apt to regard himself as rather less than nothing. His fellows, glorious by reason of one full term's standing, endeavor to foster this idea by pointing out that it is absolutely correct. After several weeks, however, the small boy finds out that he is not such a nonentity as he expected. At half term he gets a good report, and learns that it means several points for his 'house.' When sports come around, he probably attends a 'house' meeting, where some one exhorts him, in company with his fellows, to 'buck themselves up,' and he learns that, as it often happens, the success of his 'house' depends upon the juniors. Thus from the beginning he learns to think of the welfare of his 'house' and to take a pride in its successes, in which he has borne a part. Then he ceases to be proud of its successes alone and takes a pride in its sportsmanship. When, perhaps, his 'house' representative has come in third for the mile and he is walking away regretfully, he may hear some one say: 'He didn't win, but, at any rate, he was all out.' The idea sticks, and he learns to give his last ounce, in work or play, for his 'house.' With pride in his 'house' comes complete loyalty. Anything that looks like shirking or meanness, that means letting the 'house' down, makes him justly angry. He is not alone in this, and the basis of public spirit in the school is but a small step."

Where the form, instead of the "house," is the social unit, "a boy associates entirely with his form mates, whose pursuits are usually the same as his own, and he becomes rather self-centered, his circle of acquaintance is small, his tastes are narrow and do not develop. The 'house' system is a correction to this."

"Inter-house competition also shows up the selfish fellows. The unselfish fellow works and plays for the good of his 'house;' the selfish seeks only personal glory. The selfish fellow will allow his fellow batsman in cricket to be run out in order that he might obtain a good score, while it would have been better to allow the other batsman, the better player, to stay in, because he would score

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[2]The average age of boys quoted is given as 16.6.

more runs for the 'house.' The selfish fellow soon shows his true spirit, and then he is treated in such a way by the rest of the 'house' that, if he has any good in him at all, he will see the error of his ways and will probably become a better fellow. The 'house' system promotes the team spirit, the working for the welfare of the 'house' instead of for self. As one plays harder for the good of the 'house,' so one plays harder for the school."

"The 'house' system gives more responsibilities to bear. Where there is no 'house' system, the captains of cricket and football teams and the chief members of teams make only a few in the upper part of the school. But in schools where there are houses there is a head of the 'house,' a football and cricket captain and vice captain for senior and junior teams for each 'house.' All these people have responsibilities which they otherwise would not have. If there are four houses in the school, then there is a total of eight teams who have something for which to play, instead of the two or three teams of a school without houses."

"Once put into a certain 'house,' a boy stays in that house until he leaves. This gives a boy something which he can always do something for and stick up for. Also, the older members in the 'house' take greater interest in the younger members, who will compose the first team in years to come. A word of praise from a senior to a junior will make the latter to do his utmost to live up to that praise. . . . Old members of the school also take more interest in the school after they have left it if they have been a member of some 'house.' "

In the "house," "glory is only to be won gradually, by steady perseverance, for rewards rarely come early, and it needs resolution to keep on doing one's duty year after year in the same 'house,' working hard at one's games and one's work in school."

"By mixing boys from all the forms in the school, the boys learn early to respect authority. The 'big boys' of the 'house' are always looked up to by the smaller fry, and whatever they say or do generally stands as law. They soon realize who the head of the 'house' is, and what authority the senior members of the 'house' hold, and so grow to respect them. From their earliest days in the school, when they first realize that they are part of a living organization within the school, they long to attain the lofty height of 'house' captain or head of the 'house.' And when they realize that they must pull hard for the 'house' to win, their ambition is increased threefold. In the same way by including in the 'house' boys from every form in the school, no person reaches a position of authority until he is old and wise enough to fill it; for both the head and captain of the 'house' have risen through the 'house' until they have reached the top, and have a good idea of what is right and what wrong, what would be beneficial to the 'house' and what not. . . . If to each form there were a head and captain of games, and these positions meant responsibility, it would be perfectly fatuous to expect the lower forms to be run properly. One can see enough of a Form One or Two games captain in the inter-form games that are played occasionally."

HOUSES IN A GIRLS' SCHOOL

In a pamphlet, *The Howard Plan of Individual Time Tables Through House Organization,* Mrs. M. O'Brien Harris, headmistress of the

County Secondary School for Girls, Clapton, London, N., writes in regard to that school:

"Human relationships are an important element in training. Their continuity in a slowly changing group, the 'house,' is a less artificial arrangement, and hence a better preparation for life, than the abrupt changes of form life. It is possible for a mistress to get to understand a girl and to know her parents during four years in a way impossible during the one year spent in a form. There is a natural intercourse between the older and younger girls, and the chance of a wholesome form of responsibility and dependence. Intellectual superiority is not the sole factor in determining a girl's position in whatever hierarchy may exist in the 'house.' School citizenship, on this basis, requires qualities practically the same as those needed in the life of the world."

OUTSIDE OF ENGLAND

It is in the more democratic and progressive colonies of the British Empire that the "house" system is coming into its own in the day school, though it is unknown in Canada. All the government high schools and some government primary schools in Western Australia, the government secondary schools in Victoria, and a number of schools in Tasmania use the "house" system. Within the last five years it has been adopted in several schools in New Zealand. Several schools in Cape Colony and almost all the larger schools in the Transvaal use it. Officials praise it wherever it is used. The Transvaal Education Department reports:

"The experience of the department is that 'houses' are one of the most important adjuncts a school can possess in building up its standards of honor and conduct."

CONCLUSION

Segregation into age groups, a tendency outside and an extreme condition inside the school, deprives the young American of that normal contact with the past, through association with his elders, which is fundamental to the formation of solid character. To remedy the situation so far as possible, it is suggested that the English "house" system be adapted to American schools.

The "house" system has been used with notable success in the English public school for over a hundred years. It is used in day schools widely and increasingly in England and several British dominions, and is warmly advocated wherever used.

One more point should be noted. It would appear that, from the point of view of the pupil, the "house" system makes school life more

worth while for its own sake; consequently it makes school life real living.

In 1926 an English headmaster, to whom the writer had been referred by the English Board of Education, in concluding a discussion of the "house" system, wrote: "I don't know of any alternative in practice, except chaos." Do we?

FLEXIBLE REQUIREMENTS IN PRACTICE TEACHING

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Teacher-training institutions have been facing in the last few years some very acute situations regarding divergent ideals and procedures, and even now varying standards and requirements tell one that there has been little done among them to bring about uniformity. The content of the curricula, the offerings, the balance of professional and cultural subjects differ widely from college to college. One's attention is also drawn to the great divergence in practice-teaching standards at the various institutions; and out of this there arise two significant problems for the teacher-training institutions to solve.

1. How much practice teaching should be done by the prospective teacher?

2. Should all apprentice teachers be asked to have the same number of hours of practice, or should there be flexible requirements?

An attempt will be made to discuss these two problems.

HOW MUCH PRACTICE TEACHING TIME SHOULD STUDENTS PUT IN?

There is little, if any, uniformity in the amount of cadet teaching being done among the teachers colleges. A glance at the following table shows that there is a range of required apprenticeship time which

PRACTICE TEACHING REQUIREMENTS IN 121 INSTITUTIONS

NUMBER CLOCK HOURS	NUMBER OF INSTITUTIONS
600–500	4
500–400	4
400–300	4
300–200	22
200–100	55
100– 50	28
50– 0	4
	121

Median, 180; Mode, 180

runs from less than 50 clock hours to 600 clock hours. The central tendency, as shown by both the median and the mode, falls at 180

hours, which would be an average of one hour per day for the 180 days of the school year. Is this too much or too little? If one were to judge by the policies of the 121 institutions in the accompanying table, there would be no answer to the question. There are almost as many schools asking for less than 180 hours of practice teaching as there are those asking for more, and many institutions which do have a definite requirement are not sure as to whether it is the correct one.

There are several attendant problems connected with the question of the proper amount of practice teaching. One has to do with the balance of "theory" and "practice" subjects. An investigation of the catalogs of several teachers colleges indicates that the average ratio is very close to one hour of practical work for four hours of theory. To put it in another way, out of a two-years' course leading to an elementary teachers' certificate in which 60 semester hours of credit is required, approximately 15 hours would be in practice teaching and 45 hours in the theory subjects, including both introductory and specific methods instruction. Quite likely this is too much of an emphasis upon the practical. One continually gets the criticism from the critic and the supervisor in the training school that the cadet lacks the proper background for his teaching. It would seem that a great emphasis upon theory—not at the expense of practice, but to supplement it—would be a good thing. Considering the fact that practice teaching counts for nothing as actual teaching experience when it is a matter of placement, why should too much of a stress be put upon it as long as there is no great indication of better training thereby than seems to be the case?

SHOULD ALL APPRENTICE TEACHERS HAVE THE SAME AMOUNT OF PRACTICE?

Little attempt has been made by teacher-training institutions to allow for individual variations among prospective teachers as to their readiness to teach. No matter how bright or how dull the student, no matter how well or how poorly he understands the handling of children, he is asked to put in a definite amount of time in cadet work. In some colleges a slight credit is given for actual teaching experience, but in most all students are asked to fulfill the time requirement. It would seem logical to expect that there would be a great difference in how soon students are finished off and ready to teach, and as soon as they are finished off they should not be asked to put in further time in practice teaching.

The question might arise whether students should be given the same number of hours' credit for different amounts of time. There should

be no reason why this could not be so. Apprenticeship teaching is laboratory work, and, as in chemistry or other sciences, the student is given credit for quality as well as quantity; one student might well perform the semester's experiments in ten weeks and receive therefor the same credit as that student who took the whole term for it.

How is one to tell when a cadet teacher is finished off and ready to teach? This is a problem that every teacher-training institution would have to settle on its own account. A minimum standard of achievement should be worked out; and when the student teacher attains this standard, he should be excused from further practice. This

A Rating Scale for Teachers in Practice

I. Personal Equipment	
a. Appearance (Including poise, neatness, self-control, posture, dress)	
b. Voice (Including pitch, distinctiveness, pleasing qualities)	
c. Character and Personality (Including personal charm, interest in pupils, etc.)	
II. School Management	
a. Routine (Including promptness, care of heat, light, ventilation, neatness of room)	
b. Discipline (Including tact, understanding of pupils, industry of pupils, etc.)	
III. Preparation	
a. Study (Including general reading, outside material used, etc.)	
b. Plans (Thoroughness, psychological arrangement, devices used, etc.)	
IV. Teaching Technique	
a. Recitations	
(1) Questions (Number, clearness, thought-producing effect, etc.)	
(2) Presentation of subject matter (Including use of plan or textbooks, emphasis on essentials, organization, care for individual differences, etc.)	
(3) Pupil responses (Including attention, alertness, interest, progress of pupils, etc.)	
b. Assignments (Definiteness, detail, background)	

will introduce a psychological spirit of interest into the work of practice teaching. It will not be merely a matter of putting in time; there will be quality to consider. Some students will never be able to reach the standard and can be eliminated from the ranks as prospective teachers if they fail to come up to the minimum requirement within a

prescribed length of time. This affords the college a method of selection which otherwise is rather difficult to handle.

A measuring or rating scale, at least partially objective, must be devised which will determine whether a student has reached the minimum standard. Many rating devices have been outlined for measuring the efficiency of the teacher, and, with careful planning, one could be adopted which would serve for the purpose intended in the practice school. One is here suggested.

The regular grading scale—A, B, C, D, E, F—could be used, and students could be required to have an average of B, with nothing below C or D. These ratings could be made by the critics and supervisors in the training school, and as soon as the student teacher attains the minimum standard he should be excused from further practice and his full credit in apprentice teaching granted. These flexible requirements in practice work would make for great efficiency and finer competition among the cadets and would serve for the best interests of the pupil with whom the practice is done.

CONCLUSIONS

1. Institutions vary from less than 50 to 600 clock hours in required practice teaching.

2. The proportion of practice time to theory time is about 1 to 4.

3. Too much time is being put on practice at the expense of the theoretical background.

4. There are individual variations in the practice time needed to prepare various candidates for teaching.

5. There should be a minimum standard of attainment for every prospective teacher to reach.

6. As soon as he comes up to this standard he may be excused from further practice.

7. An objective rating scale can be used to judge whether the student has attained the standard.

A STUDY OF THE SCIENTIFIC INTERESTS OF DWELLERS IN SMALL TOWNS AND IN THE COUNTRY

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The investigation reported in this paper represents an attempt to secure data relative to the scientific interests of pupils enrolled in the ninth grade in small high schools and of adults living in small towns and in the country. Two similar studies of scientific interests have already appeared: Pollock's study,[1] in which he analyzed 3,500 questions secured from pupils studying general science in the eighth grade in 13 high schools of Columbus, Ohio; and the author's study,[2] in which he analyzed 3,330 questions obtained from 687 pupils studying general science in the ninth grade in 10 high schools in New York City, Okmulgee (Oklahoma), Portland and Salem (Oregon), and 3,232 questions secured from 705 of the parents of these pupils.

Two criticisms, especially, have been made of these two studies by those interested in evaluating them for curricular purposes: (1) The subjects under consideration, even though considerable in number, represent a selective sampling, because they were all city dwellers; and (2) suggestion, operating in the model questions, had a large part in conditioning the responses made. The purpose of the investigation here reported, therefore, is primarily to ascertain whether the scientific interests of country dwellers differ from those of city dwellers, and, further, to secure evidence relative to the extent to which the suggestive factor, operating through the model questions, influences the responses.

METHOD

During the winters of 1925 and 1926 the author sent a form letter to a large number of superintendents and principals of small vocational-agricultural high schools of Michigan, asking help in securing scientific questions from the boys and girls in the first-year classes in

[1] C. A. Pollock, "Children's Interests as a Basis of What to Teach in General Science," *Educational Research Bulletin*, Ohio State University, III (January 9, 1924).

[2] Francis D. Curtis, "Some Values Derived from Extensive Reading of General Science," Teachers College Contributions to Education, No. 163 (1924).

science and from the parents of these pupils. The author sent to every administrator who signified his willingness to coöperate in this study a sufficient number of copies of the following letter to supply one to each pupil studying first-year science, which in all these schools was reported by the superintendents to be either *agricultural botany* or *economic zoölogy:*

DEAR PUPIL:

You have by this time advanced far enough in the study of science to realize that in many ways it helps you to understand the things which you never understood before. You have been wondering about the rain, wind, and sun; about things living and things mechanical. Always there is present in your mind a question, and somewhere in this new subject of science there is an answer.

Science includes a great many things; and because it does, our great scientists usually spend their time on one special field in which they are interested. Some scientists have found out for us much about the sun, moon, and stars. Some have spent their time learning about plants and flowers; others, about birds, insects, and other animals. Some have performed wonderful experiments with chemicals. Other men are working with electricity to find out for us about radio, the telegraph, the electric light, and the street car. Some spend most of their time studying the winds, clouds, oceans, mountains, rocks, and minerals. In the vast storehouse of scientific information are to be found solutions for the questions that puzzle you.

In order that teachers of science may be most helpful to you, they desire to know what boys and girls of your age find most interesting. To assist the teachers in determining this, you are each asked to make a list of no more than five things or questions relating to science in which you are really most interested. When you go home tonight, spend some time thinking it over, and then make your list. Bring it in tomorrow. Also be sure to give your father and mother this explanation sheet; ask them each to make out the same sort of list. Write your questions and ask your parents to write theirs in pencil on the back of this sheet, and hand it in to your teacher tomorrow.

On the bottom of this sheet was the following letter to the parents:

DEAR SIR AND MADAM:

Your son or daughter, who is now studying science, is preparing, as part of the class assignment for tomorrow, a list of five topics or questions about the phases of science in which he or she is most interested. A knowledge of children's scientific interests is valuable as a guide to the selection of course materials which will satisfy these interests. But if the courses in science are to make their best contributions as a preparation for later life, they must be based upon a knowledge not only of what the pupils' interests are, but of what the scientific interests of adults are as well.

We are, therefore, asking your help. Will you not take a few minutes to think over and write down on the back of this sheet not more than five of the topics, theories, or questions involving science which most interest you, either because of the practical use you could make of the answers, were they obtainable, or because of your curiosity regarding them?

On the other side of this same sheet were these instructions:

Write your questions in the spaces indicated below, and ask your father and mother to write theirs on this same sheet, too. *You need not sign your name,* but please mark a cross in front of the two of the four following statements which are true for you:

I am a boy. I am a girl.
I live in town. I do not live in town.

Perhaps these examples of questions will help you:

1. Why doesn't an iron ship sink?
2. How are coral islands formed?
3. How do trap-door spiders build their nests?
4. What is glass made of?
5. How is beet sugar made?

Below this on the sheet were numbered spaces for the questions of the pupil, his father, and his mother.

It will be noted that, of the model questions, only the one on *beet sugar* involves an important economic factor in the environment of country dwellers of Michigan, and the others have varying degrees of contact with the subjects' environment.

Superintendents returned questions from 32 high schools situated in small towns, the median population of which was 309 inhabitants.

Table I shows the data relative to the distribution of individuals responding and of questions submitted.

TABLE I

DATA RELATIVE TO THE INDIVIDUALS RESPONDING AND TO THE DISTRIBUTION OF QUESTIONS SUBMITTED

	Questions of					
	Boys	Girls	Men	Women	Boys and Girls	Men and Women
Number of individuals	128	193	185	201	321	386
Per cent living in town	32.0	32.1	30.3	34.3	32.1	32.4
Per cent living in the country	68.0	67.9	69.6	65.7	67.9	67.5
Number of questions submitted	686	932	783	863	1,618	1,646

Three separate analyses of the questions were made: To determine (I) *the division of science involved;* (II) *the nature of the information desired;* and (III) *the scientific interest revealed.*

I. The first analysis involved the determination of which of the questions, and the interests represented by the questions, belonged under the Physical and which under the Biological Sciences.

II. The second analysis involved the classification of all the questions into four groups, determined by the nature of the information demanded in the question:

A. Those which ask for a *definition*—such as, "What is light?" "What is glass made of?"

B. Those which ask for information of a *general* nature—such as, "What causes day and night?" "Why does wood float in water?"

C. Those which ask for definite *technical information*—such as, "What is the right way to graft trees?" "What are the steps required in getting copper from rock?"

D. Those which ask definitely about some *scientific theory*. None was included in this classification unless it was obvious from the questions that the inquirer had at least some slight acquaintance with a recognized theory. For example, "Are any of the planets inhabited?" was not considered to reveal with reasonable certainty a knowledge of any theory; but, on the other hand, such a knowledge was assumed in connection with the question, "What proof have we that Mars is inhabited?"

III. The third analysis involved the careful consideration of each question to determine accurately the topic or interest revealed by the question or statement. For example, "What makes a cyclone so destructive?" was listed under *tornado;* "How did we find out about the animals which lived long ago?" was listed under *fossils*, etc.

General classifications—such as *botany, light,* etc.—were avoided whenever it was possible to list the questions under more specific terms—such as *photosynthesis, images,* etc. For example, such a question as, "Why do plants turn toward the sunlight?" was listed under *heliotropism* instead of under *botany,* or *plants;* "Why does a stick in water look bent?" was listed under *refraction* instead of under *light.* Only those questions were listed under general heads—such as *astronomy, chemistry,* etc.—which expressed an interest in the general subject itself, but not in any specific phase of the subject. Examples are, "I want to learn more about astronomy;" "I am interested in chemistry." All questions involving *radio,* however, were listed together under that term. A few questions revealing more than one interest were listed under both. For example, "What is the difference between a shooting star and a comet?" was listed under both *meteor* and *comet.*

The author was able readily and with confidence to place most of the questions under their appropriate classifications in all three analyses. There were, however, some "borderline" questions, the

correct classifications of which were not clearly apparent. To diminish the subjectivity of judgment in such cases, therefore, the author discussed these questions with another investigator, and finally placed them under the headings which the combined judgments indicated as most appropriate.

FINDINGS

Table II, exhibiting the results of the first analysis, reveals several interesting facts.

TABLE II

DISTRIBUTION OF THE QUESTIONS AND INTERESTS OF COUNTRY DWELLERS, UNDER THE PHYSICAL AND THE BIOLOGICAL SCIENCES

	Questions of					
	Boys	Girls	Men	Women	Boys and Girls	Men and Women
Questions Physical	505	640	495	524	1,145	1,019
Questions Biological	175	280	277	329	455	606
Questions Unclassified	6	12	11	10	18	21
Per cent questions Physical	73.6	68.7	63.2	60.7	70.8	61.9
Per cent questions Biological	25.5	30.0	35.4	38.1	28.1	36.8
Per cent questions Unclassified	.9	1.3	1.4	1.1	1.1	1.3
Different interests	265	331	309	342	452	511
Different interests Physical	173	216	202	219	268	314
Different interests Biological	90	108	98	113	175	178
Different interests Unclassified	2	7	9	10	9	19
Per cent interests Physical	65.3	65.3	65.3	64.0	59.3	61.4
Per cent interests Biological	33.9	32.6	31.7	33.0	38.7	35.8
Per cent interests Unclassified	.7	2.1	2.9	2.9	2.0	3.7

Both the questions and the different scientific interests of these dwellers in small towns and in the country are predominantly physical rather than biological. This fact is surprising when one considers the rural environment of these subjects and when one remembers, too, that all of these country children were studying biological science.

The range of the scientific interests of these country girls is somewhat greater than that of these country boys, since 331 different scientific interests are recorded for the former and 265 for the latter.

A very close agreement is found among the respective percentages of different interests of boys, girls, men, and women classified as physical and biological. When the boys' and the girls' and the men's and the women's lists are combined, however, both the children and the adults are found to have in common more physical than biological interests. The result is, therefore, that in the combined lists the percentage of biological interests is increased. For example, 33.9 per

cent of the boys' interests and 32.6 per cent of the girls' interests are biological; but when the lists are combined, 38.7 per cent of the different interests are found to be biological.

The range of the scientific interests of these country women is slightly greater than that of these country men, since 342 different interests are recorded for the former and 309 for the latter.

Table III, exhibiting the corresponding results of the author's previous study of the scientific interests of city dwellers, offers an interesting comparison with the results of this study.

TABLE III

DISTRIBUTION OF THE QUESTIONS AND INTERESTS OF CITY DWELLERS WITH RESPECT TO THE PHYSICAL AND THE BIOLOGICAL SCIENCES

	Questions of					
	Boys	Girls	Men	Women	Boys and Girls	Men and Women
Questions Physical	1,230	1,352	1,112	1,117	2,582	2,229
Questions Biological	250	474	364	600	724	964
Questions Unclassified	8	16	19	20	24	39
Per cent questions Physical	82.7	73.4	74.4	64.3	77.5	68.9
Per cent questions Biological	16.8	25.7	24.3	34.5	21.7	29.8
Per cent questions Unclassified	.5	.9	1.3	1.2	.7	1.2
Different interests	312	350	450	443	464	657
Different interests Physical	215	213	294	252	285	386
Different interests Biological	92	134	152	184	171	260
Different interests Unclassified	5	3	4	7	8	11
Per cent interests Physical	68.9	60.9	65.3	56.9	61.4	58.7
Per cent interests Biological	29.5	38.3	33.8	41.5	36.8	39.6
Per cent interests Unclassified	1.6	.9	.9	1.6	1.7	1.7

The scientific interests of these city dwellers, like those of the country dwellers, are predominantly physical. The same is true of the scientific interests of the city children studied by Pollock.

It is worth noting that the results from studies of newspaper and magazine science are considerably at variance with the results of these three interest studies. The author, in his study of newspaper science,[3] found that 41.4 per cent of the articles analyzed were devoted to the biological sciences and 49.0 per cent to the physical sciences; Hopkins, in his study of magazine science,[4] found that "the biological material occupied on the average four times as much space as phys-

[3] Curtis, *op. cit.*, pages 11-27.

[4] L. Thomas Hopkins, "A Study of Magazine and Newspaper Science Articles with Reference to Courses in Science for High Schools," *School Science and Mathematics*, XXV (1925), pages 793-800.

ical and ten times as much as chemical;" Searle and Ruch, in their analysis of magazine science,[5] found "a much larger proportion devoted to biological than to physical science."

The range of scientific interests of the girls again exceeds that of the boys, since 350 different interests are recorded for the girls and 312 for the boys. Pollock, in his study, moreover, reports the scientific interests of city girls to exceed that of the city boys by 10 per cent.

These city men, unlike the country men, show a greater range of scientific interests than the women, since 450 different interests are recorded for the men and 443 for the women.

TABLE IV

DISTRIBUTION OF THE QUESTIONS WITH RESPECT TO THE NATURE OF THE INFORMATION WANTED IN EACH QUESTION ASKED BY COUNTRY DWELLERS

INFORMATION WANTED	QUESTIONS OF					
	BOYS	GIRLS	MEN	WOMEN	BOYS AND GIRLS	MEN AND WOMEN
Definitions	58	107	67	97	165	164
General information	509	600	513	565	1,109	1,078
Technical information	110	200	193	192	310	385
Theories	9	25	10	9	34	19
Per cent definitions	8.4	11.5	8.6	11.2	10.2	10.0
Per cent general information	74.2	64.4	65.5	65.5	68.5	65.5
Per cent technical information	16.0	21.4	24.6	22.2	19.2	23.4
Per cent theories	1.3	2.7	1.3	1.0	2.1	1.1

Several interesting points may be noted by comparing, in Tables IV and V, the results of the second analysis in both of the author's studies of scientific interests.

These rural dwellers ask a relatively smaller percentage of questions seeking general information and a much larger percentage of technical questions than the city dwellers. A comparison of the questions submitted in both studies shows, moreover, that the rural dwellers ask many technical questions bearing upon horticulture or agriculture—i. e., related to their vocational life—while the city dwellers ask technical questions relatively unrelated to their vocational life.

These country girls ask a greater percentage of technical questions than these country boys, while the country men ask a slightly greater percentage of technical questions than the country women. In the author's previous study of the interests of city dwellers, the boys

[5] A. H. Searle and Giles M. Ruch, "A Study of Science Articles in Magazines," *School Science and Mathematics*, XXVI (1926), pages 389-96.

asked a considerably larger percentage of technical questions than the girls, and the men than the women. In both studies, interest in technical processes seems to increase with maturity, since the country adults ask a greater percentage of technical questions than the country children, and the city adults about three times as great a percentage as the city children.

The country girls ask a greater percentage of questions about theories than either the boys or the adults; the opposite is the case with the city girls. The average percentage of questions about theories for the country children is nearly twice that for the country adults;

TABLE V

DISTRIBUTION OF THE QUESTIONS WITH RESPECT TO THE NATURE OF THE INFORMATION WANTED IN EACH QUESTION ASKED BY CITY DWELLERS

INFORMATION WANTED	QUESTIONS OF					
	BOYS	GIRLS	MEN	WOMEN	BOYS AND GIRLS	MEN AND WOMEN
Definitions	152	147	104	145	299	249
General information	1,265	1,656	1,260	1,529	2,921	2,789
Technical information	32	5	82	25	37	107
Theories	39	34	49	38	73	87
Per cent definitions	10.2	8.0	6.9	8.3	9.0	7.7
Per cent general information	85.0	89.9	84.4	88.0	87.7	86.3
Per cent technical information	2.2	.3	5.5	1.4	1.0	3.4
Per cent theories	2.6	1.8	*3.3	2.2	2.2	2.7

the city adults, however, ask a greater percentage of such questions than the city children. In both studies the men ask a greater percentage of questions about theories than the women.

A study of the interest lists of these country dwellers obtained from the third analysis reveals several interesting points.

There is a surprising similarity in the interest lists of the boys and girls and of the men and women. Only five of the fifty-five most frequently recurring interests of these men are not shared by these women, and only seven of the fifty-five most frequently recurring interests of these women are not shared by these men. The correspondence of the boys' and girls' lists is even closer. In the author's previous study, however, a much greater diversity of scientific interests was found between the lists for the boys and the girls and for the men and the women; the interests for one sex not shared by the other, moreover, were characteristic, being largely physical for boys and men and biological for girls and women.

Table VI shows a close agreement between the combined lists of the children and of the adults, with respect both to topics and to their relative ranks. A similar close agreement was found between the corresponding interests lists in the author's previous study of the interests of city dwellers.

TABLE VI

RELATIVE RANKS OF THE SCIENTIFIC INTERESTS WHICH APPEAR FIVE OR MORE TIMES IN THE COMBINED BOYS' AND GIRLS' LISTS AND IN THE COMBINED MEN'S AND WOMEN'S LISTS, AND WHICH ARE COMMON TO BOTH COMBINED LISTS

RANK IN CHILDREN'S LISTS	RANK ADULTS' LISTS	INTERESTS	RANK IN CHILDREN'S LISTS	RANK ADULTS' LISTS	INTERESTS
1	2	radio	31.5	20	animals
2	3	electricity	31.5	75.5	eclipses
3	6	plants	34	56.5	coal
4	4	sun	34	27	insects
5	8	stars	34	16	trees
6	9.5	earth	37.5	68.5	diamonds
7.5	16	lightning	37.5	48.5	foods
7.5	5	moon	37.5	39	gravity
9	27	sound	37.5	39	spiders
10.5	23	glass	37.5	43.5	tides
10.5	11.5	winds	48	56.5	comets
12	1	insect pests	48	43.5	grafting
13	31.5	thunder	48	39	meteors
14.5	35	buoyancy	48	77.5	oceans
17	35	Aurora borealis	48	20	tornadoes
17	11.5	sugar	53.5	68.5	iron
17	68.5	plants	53.5	43.5	radium
19	9.5	domestic fowls	59.5	68.5	aeroplanes
21.5	23	earthquakes	59.5	20	plant diseases
21.5	31.5	fish	59.5	31.5	weather
21.5	56.5	gold	59.5	39	salt
21.5	16	song-birds	59.5	68.5	gasoline
24	68.5	flowers	72.5	43.5	agriculture
25.5	68.5	rainbows	72.5	56.5	paper
28.5	28.5	evolution (biol.)	72.5	56.5	rubber
28.5	16	history of science	72.5	56.5	weather forecasts
28.5	68.5	light	72.5	77.5	electric lamps
28.5	68.5	rocks			

Tables VII and VIII offer further evidence of the close correspondence between the combined lists of the boys and girls and of the men and women.

Evidence of the value of this type of study for making tests and curricula is furnished by the fact that the rank order correlation by the Spearman "Footrule" method, of the fifty-nine terms which occur five or more times in the combined boys' and girls' lists in both this and the author's previous study is $.62 \pm .03$; and that between the thirty-eight terms which occur five or more times in the combined boys' and girls' lists in both this and Pollock's study is $.72 \pm .05$.

These studies show a surprising similarity of the scientific interests of these dwellers in the urban and rural communities.

TABLE VII

SCIENTIFIC INTERESTS WHICH APPEAR FIVE OR MORE TIMES IN THE COMBINED BOYS' AND GIRLS' LISTS, BUT FEWER THAN FIVE TIMES IN THE ADULTS' COMBINED LISTS

RANK IN CHILDREN'S LISTS	INTERESTS	RANK IN CHILDREN'S LISTS	INTERESTS
14.5	snakes	59.5	fire
25.5	volcanoes	59.5	*coral
37.5	magnetism	72.5	waves
42.5	clouds	72.5	mercury
42.5	water	72.5	dyes
48	air	72.5	astronomy
48	bees	72.5	*glaciers
48	frogs	72.5	phonograph records
48	sky	72.5	smoke
59.5	photography	72.5	sponges
59.5	evaporation	72.5	telephone
		72.5	grass

*Not found in the adults' combined lists.

TABLE VIII

SCIENTIFIC INTERESTS WHICH APPEAR FIVE OR MORE TIMES IN THE COMBINED MEN'S AND WOMEN'S LISTS, BUT FEWER THAN FIVE TIMES IN THE CHILDREN'S COMBINED LISTS

RANK IN ADULTS' LISTS	INTERESTS	RANK IN ADULTS' LISTS	INTERESTS
13	farm animals	56.5	static electricity
16	farm crops	56.5	yeasts
16	soil	68.5	farm machinery
23	cooking	68.5	seasons
27	batteries	68.5	frost
27	fertilizers	77.5	automobile mechanics
27	stains	77.5	*chemistry of foods
31.5	flower culture	77.5	climate
35	aluminum	77.5	gases
48.5	corn	77.5	land formation
48.5	eggs	77.5	*horticulture
52.5	*alfalfa	77.5	*lime
56.5	animal diseases	77.5	ink
56.5	snow		

*Not found in the children's combined lists.

Table IX throws some light upon the effect of suggestion given in the model questions, though it is obvious, of course, that the influence of the model questions is only one of several variable factors operating in this type of study and is here imperfectly isolated.

This table, together with Table VI and with similar data from the author's previous study, seems to offer some justification for four inferences:

a. *A topic suggested in the model questions appears somewhat oftener in the responses than if it were not suggested in the model questions.* For example, in the author's previous study, which included in the model questions no mention of *buoyancy, sugar, spiders, glass,* and *coral, buoyancy* has a rank somewhat lower in all the lists

TABLE IX

THE TOPICS SUGGESTED IN THE MODEL QUESTIONS, WITH THEIR RESPECTIVE RANKS IN THE VARIOUS LISTS

SUGGESTED TOPICS	RANK IN			
	BOYS' LIST	GIRLS' LIST	MEN'S LIST	WOMEN'S LIST
Sugar	29.5	11.5	34.5	8
Glass	14.5	11.5	26.5	18
Buoyancy	14.5	21	34.5	30
Spiders	*	28.5	*	18
Coral	*	*	†	†

*Mentioned in fewer than five questions.
†Mentioned in no questions.

than it has in those of this study, *sugar* does not appear in the boys' and girls' lists, *spiders* and *glass* in the men's list, and *coral* in the women's. It is impossible to know, however, how much the superior ranks of these topics in the study here reported may be due to the suggestive influence of the model questions, and how much may be ascribed to differences in environment, vocations, training, etc., of the subjects of the two studies.

b. *Topics suggested in the model questions have higher ranks if they are factors in the familiar environment of the subjects than if they are not.* The average rank of *sugar* in all four lists, for example, is about twentieth, despite the great importance of the beet-sugar industry to many of the individuals who submitted questions. The average rank of *glass* is about seventeenth, despite its prominence in the familiar environments of all the subjects. *Coral,* which has no place in the subjects' environment, is practically ignored by them.

c. *These girls seem to be influenced more by the suggestions offered by the model questions than these boys, and these women than these men.*

d. *The mere influence of suggestion in the model questions does not suffice to raise to a commanding rank a topic which is a relatively*

unimportant interest of the group of individuals responding; nor does it tend appreciably to divert a subject's attention from scientific interests which are more important to him. Evidence in support of this statement is furnished by the rank of *coral.* Further evidence is furnished by the fact that in Table VI astronomical topics occupy practically as prominent positions as they occupied in the previous studies by Pollock and the author, despite the fact that in the study here reported the model questions give no suggestion of astronomy, while in Pollock's study two, and in the author's former study one, of the model questions involved astronomical topics.

The chief evidence in support of this last point, however, is furnished by the correlations already given. Rank order correlations as high as these would be unlikely to occur between the interests determined from different studies, in which care had been taken to use entirely different model questions, if the latter exerted a strong suggestive influence upon the individual responding, or if they tended to divert his attention from interests more important to him.

IMPLICATIONS

Studies of scientific interests by the method here used give data of considerable value for curricular construction. The suggestive influence of the model questions, moreover, is small, and may be practically eliminated by selecting model questions involving only scientific topics likely to have minor importance in the environment of the subjects.

The combining of data from several studies tends to diminish the importance of purely local interests. *Sugar,* for example, which, because of its economic importance in Michigan, has in this study an average rank of about twentieth on the interest lists, is scarcely mentioned in the two previous studies; *crude oil,* which, because of the frequency with which this topic appeared in questions from Okmulgee, has in the author's previous study an average rank of about fourteenth, does not appear at all in the other two studies; on the other hand, *radio, electricity,* and *astronomical* topics, which have important places in each study, take still more commanding positions when the lists from the three studies are combined.

More studies of the same sort are needed for curricular purposes and for furnishing additional evidence relative to the suggestive influence of the model questions. Similar investigations, moreover, with slight modifications of technique, should make it possible to de-

termine whether, and to what extent, the scientific topics mentioned in the letter of explanation to the pupils and their parents may influence the responses. The solution of this latter problem will require the elimination from the instructions to parents and pupils of all scientific topics which have been found to rank high in the preceding three studies.

THE BEGINNING OF THE ACCREDITING SYSTEM OF SECONDARY SCHOOLS IN MISSOURI

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The state of Missouri was a pioneer in the accrediting of secondary-school work by the higher institutions. Before any accrediting system could be established in the state, however, it was necessary that some degree of standardization of the secondary curriculum be brought about. The so-called "educational ladder" was slowly evolved, perhaps through necessity, from a system of private educational institutions that differed widely in their purpose and organization. The story of the development of the secondary curricula in Missouri is a story of reconciling a conflict between two demands—on the one hand, that for preparation for college, and, on the other, that for a non-collegiate preparation extended beyond the elementary grades. The early college reached downward to find a means of preparation for the few, while the elementary-school curricula extended upward in order to secure an extension of a general, practical education for the many.

The earlier colleges, as well as secondary schools, were unable to distinguish between elementary and higher work, and included in their curricula many of the elementary-grade subjects. This tendency continued to hold sway among some of the private schools until after 1900. There seems to have been no clear distinction between the work of the college, secondary school, and elementary school, and their curricula were constantly overlapping.

After 1850 two types of curricula can be distinguished in the secondary schools. One type contained in its first year subjects now commonly assigned to the seventh and eighth grades, and in its three upper years courses now ordinarily ascribed to secondary rank. The other type included in its first year subjects now of secondary rank, and gradually expanded until it reached up into what now belongs to the college course. The four-year standard secondary curriculum was not popular until after 1890.

An example of the first of these two types of curricula is seen in the Danville Female Academy, at Danville, Mo., in 1864. This included

in its first year Orthography, Reading, Penmanship, Geography, Arithmetic, English, Grammar, and Harper's School History. The second year included, besides a review of the above list, subjects of a higher level, such as Geology and Latin. The other two years were of distinctly secondary-school character.

An illustration of the second type is seen in the St. Louis English Classical High-School Course of Study of 1863. This school offered Latin, Algebra, German, and Physical Geography in its first year, and in its third and fourth years offered such college courses as Civil Engineering, Analytical Geometry, and Calculus.

It can be seen by a scrutiny of the extant curricula that there was considerable uncertainty as to just what courses should be offered in the secondary schools. Educators recognized the problem presented by the wide and varying curriculum actually appearing, and made attempts to solve it.

It is perhaps commonly thought that Dr. Henry S. Frieze, acting president of the University of Michigan, first conceived the idea of admission to college by certificate from secondary schools. Dr. Frieze suggested, in his annual report in September, 1870, that there be a mutual coöperation between the University and the high schools of Michigan.[1] Approximately forty years before Dr. Frieze suggested this plan in Michigan, however, Missouri, from 1839 to 1843, had such a plan in actual operation. This was perhaps the first attempt west of the Mississippi River, and an early attempt in the development of schools in the nation, to control secondary curricula and to regulate by certificate the admission of students to higher institutions.

This first attempt to make a definite connection between a university and the secondary schools was made by the Legislature of Missouri when it passed the Geyer Act, on February 11, 1839. This act, drafted by Henry S. Geyer, was to provide for the institution and support of the State University and for the government of colleges and academies. The act provided for the colleges and academies in different parts of the state to be articulately connected with the district schools, and, further, that every college, academy, and seminary then existing or thereafter to be incorporated by the state, if not by its charter expressly exempted, should be under the visitorial power of the university curators. This law was based on the educational system which Thomas Jefferson urged on Virginia in 1779. The entire law did not long remain in force. Missouri inaugurated Jefferson's

[1]Henderson, J. L., *Admission to College by Certificate.* Teachers College, Columbia University, Contribution No. 50, page 10.

general system of public education as to the district schools and the university, but on February 24, 1843, she repealed that portion of the Geyer law which provided for the government and partial support of the academies and colleges by the university.[2]

The next active effort in Missouri for the regulation of admission to college was in 1886, when the State Teachers Association recommended that all secondary schools desiring to coöperate with the university should include certain designated subjects in their curricula. It may be said that this was the beginning of the present accrediting system for secondary schools in this state.[3]

The Missouri College Union was formed in 1893. This union, an association of the higher institutions of learning of the state, was one of the powerful influences toward standardization of the courses of instruction in the secondary schools. One of the first acts of the union was the adoption of suggested curricula for secondary schools.

In 1895 the agitation for a definition of a secondary-school course became so great that a report made by a committee of the Missouri State Teachers Association in that year was unanimously accepted. The committee made bold to suggest a complete curriculum for secondary schools. This curriculum and the courses adopted by the Missouri College Union resembled closely the one made by the Committee of Ten of the National Educational Association.

In the same decade the president of the University of Missouri appointed an inspector to visit secondary schools and to approve them when they met the standards required by the university.

In 1903 the law gave the power of inspection to the State Superintendent of Public Schools, but because of lack of funds this department did not do much of this work until 1907.

Three outstanding things are evident in the facts set forth in this paper. First, Missouri had, in the course of time, several agencies that tended toward the standardization and accrediting of the secondary-school curricula. The state was perhaps not different in this respect from many of the other Central Western states. Secondly, Missouri was one of the first states, if not the first, west of the Appalachian Mountains to make any effort toward connecting the elementary schools and secondary schools with the colleges and universities. This was attempted through legislation. In the third place, it seems that, in the later period, from which the present-day coöperation really descends, the feeling concerning regulated curricula for the secondary schools must have been fairly general all over the coun-

[2]Snow, Marshall S., *Higher Education in Missouri.* U. S. Bureau of Education Circular of Information, No. 2, 1898, pages 15, 16.

[3]Phillips, C. A., *History of Education in Missouri*, pages 55-57.

try. The more modern effort was begun in Missouri at about the same time that the Committee of Ten made its report to the National Education Association. Because of the simultaneous efforts of Missouri and the National Education Association to standardize secondary curricula, there seems to have been no doubt that the time was ripe for such a movement, and it is evident that Missouri was acting according to the prevalent idea of the times. Credit should be given, however, for the forward look of the early Missouri educators, and nothing should obscure the fact that this state very early in its history attempted to regulate its secondary curriculum, to make this in harmony with the higher educational institutions, and to create a unified state-wide system of education.

A STUDY OF GRADE REPETITION IN THE ELEMENTARY SCHOOLS OF LOUISIANA

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During the session of 1925-1926 an effort was made to determine the percentage of repetition in the several grades of a representative group of elementary schools of Louisiana. To this end, the conditions in ninety-six schools, located in thirteen different parishes, were studied. Three of these parishes are located in the northern part of

TABLE I
THIRTEEN PARISHES, COMBINED
Pupils Repeating Their Grades

	NUMBER ENROLLED	NUMBER REPEATING	PER CENT REPEATING
First grade	4,015	1,380	34
Second grade	2,809	451	16
Third grade	2,442	276	11
Fourth grade	2,404	362	15
Fifth grade	2,184	258	11
Sixth grade	1,715	143	8
Seventh grade	1,355	101	7
Total, Grades One to Seven	16,924	2,971	17.6

the state, four are in the southern, three in the southeastern, two in the southwestern, and one is in the central part of the state. The figures were secured from all types of schools and from a sufficient number to represent general conditions existing throughout each of the several parishes considered; and since these parishes are widely distributed over the state, the results of the study may be considered as fairly indicative of the conditions in the schools of the state as a whole.

In each of the schools visited the writer obtained from the teachers of the several grades the number of pupils enrolled and the number and percentage of pupils who were repeating their grades during the session.

Table I gives the combined figures for the thirteen parishes studied. It is to be seen from this table that 17.6 per cent of all pupils enrolled

in the elementary grades were repeating their grades. The repeating pupils range from 7 per cent, in the seventh grade, to 34 per cent, in the first grade.

Table II gives a comparison of the percentage of repetition in the first grade with that of all other elementary grades combined. It is shown that the number of pupils repeating in the first grade is not far short of the number who repeat in the six other grades combined, and

TABLE II

COMPARISON OF REPETITION IN FIRST GRADE WITH THAT OF GRADES TWO TO SEVEN, INCLUSIVE

	Number Enrolled	Number Repeating	Per Cent Repeating
First grade	4,015	1,380	34
Grades Two to Seven	12,909	1,591	12
Total, Grades One to Seven	16,924	2,971	17.6

that the percentage of repetition in the first grade is nearly three times as great as the percentage in all other elementary grades combined.

The average percentage of repetition in the first grade is so high that it is considered advisable to show, by Table III, the percentages

TABLE III

PERCENTAGE OF REPETITION IN THE FIRST GRADE

Parish	Number Enrolled	Number Repeating	Per Cent Repeating
Ascension	235	67	29
Jefferson Davis	344	137	40
Acadia	476	138	29
Jefferson	480	99	21
Livingston	381	140	37
Jackson	182	58	32
East Carroll	163	55	34
Grant	273	104	38
Madison	161	79	49
Terrebonne	219	67	31
Evangeline	648	276	43
St. Martin	312	105	34
St. Charles	141	55	39
Total, Grade One	4,015	1,380	34

in the several parishes studied. It will be seen from this table that the repetition in the first grade ranges from 21 per cent, in Jefferson parish, to 49 per cent, in Madison parish, with an average of 34 per cent in the thirteen parishes combined.

Table IV shows the percentage of repetition of all elementary pupils above the first grade. This percentage ranges from 9 per cent, in Jefferson and St. Martin parishes, to 19 per cent, in Terrebonne parish. The average percentage of repetition for all parishes, in Grades Two to Seven, combined, is 12 per cent. It is thus shown that there is not an extremely high average rate of repetition after pupils have once been promoted from the first grade. Nor is there so wide a variation in the rates of repetition in the several parishes.

TABLE IV

PERCENTAGE OF REPETITION IN GRADES TWO TO SEVEN, COMBINED

PARISH	NUMBER ENROLLED	NUMBER REPEATING	PER CENT REPEATING
Ascension	1,062	119	11
Jefferson Davis	1,048	194	18
Acadia	1,409	163	12
Jefferson	1,474	126	9
Livingston	1,167	123	11
Jackson	825	93	11
East Carroll	432	72	17
Grant	1,152	122	11
Madison	361	56	16
Terrebonne	599	115	19
Evangeline	1,584	237	15
St. Martin	1,137	97	9
St. Charles	623	74	12
Total, Grades Two to Seven	12,909	1,591	12

TABLE V

PERCENTAGE OF REPETITION IN GRADES ONE TO SEVEN, COMBINED

PARISH	NUMBER ENROLLED	NUMBER REPEATING	PER CENT REPEATING
Ascension	1,297	186	14
Jefferson Davis	1,428	331	23
Acadia	1,885	301	16
Jefferson	1,954	225	12
Livingston	1,548	263	17
Jackson	1,007	151	15
East Carroll	595	127	21
Grant	1,425	226	16
Madison	522	135	26
Terrebonne	818	182	22
Evangeline	2,232	513	23
St. Martin	1,449	202	14
St. Charles	764	129	17
Total, Grades One to Seven	16,924	2,971	17.6

Table V gives the percentage of repetition in the respective parishes for all elementary grades combined. It will be seen that the

range of repetition is from 12 per cent, in Jefferson parish, to 26 per cent, in Madison parish. The average repetition for all parishes is 17.6 per cent.

CONCLUSIONS AND SUGGESTIONS

1. Since the figures considered in this study were secured from all types of schools and from a sufficient number to represent general conditions in each of the several parishes, since a representative number of pupils in each grade and parish are included, and since the parishes are fairly well distributed over the state, it is a fair assumption that the average percentage of repetition shown in the several elementary grades represents the general conditions throughout the state.

2. Approximately one child of every six enrolled in the seven elementary grades is repeating his grade, one year or more. In the first grade, one child of every three enrolled is spending more than one year in that grade; but above the first grade, only one child of every eight enrolled requires more than one year to secure a promotion.

3. A fair rate of promotion prevails in the grades above the first. The percentage of repetition in the first grade is extremely high and is unjustifiable.

4. The following reasons for the high rate of repetition of first-grade children are suggested:

A. The work of the first-grade teacher is essentially different from that of the teacher of any other grade, and many primary teachers have not had the special training required for effective instruction.

B. The teacher of the first grade requires a considerable amount of special equipment, and many primary departments are not so equipped.

C. The attitude of many primary teachers affects adversely the rate of promotion of first-grade children. For instance, in the French sections of the state many teachers assume that French-speaking beginners naturally require two years for the completion of the first grade, and in other parts of the state many teachers have adopted the practice of requiring beginners to spend one year in the primers and another year in the first readers.

D. Late entrance of beginners is a potent cause of repetition. All through the session many beginners are permitted to enter school as soon as they reach the age of six years. Many of such beginners, because of their late entrance, have little chance of promotion; they hinder the work of other pupils; their own interest in school work is dulled; and they serve mainly to increase the percentage of repetition. The percentage of repeaters in the first grade would be greatly

reduced if an earnest campaign were inaugurated among parents to have beginners enter school at the first of the session. School boards should require beginning first-graders to enter during the first two weeks of the session, or else remain out of school until the beginning of the next school year. The failure of many administrative officers to appreciate fully the magnitude of the problem presented by the first grade has made possible the continuance of the unfavorable conditions.

EDITORIALS

THE RHODES SCHOLARS AND THE NATIONAL LIFE

That the Rhodes scholarships are comparatively a failure is asserted (so the public press reports) by the British educator, Herbert A. L. Fisher, now warden of New College, Oxford University, and formerly at the head of the department of Education of the British government. The vision entertained by the great Empire-builder, Cecil Rhodes—he says—pictured the recipients of this bounty as the future dominant personal forces directing the governments of the earth. Yet now, twenty-three years after the inauguration of the system, none, or only one, of these most carefully chosen young men, has, from the American group of scholars, risen to be a really notable national or international figure. The anticipated leadership simply has not come about.

It was a daring, even if visionary, plan that was projected by the magnificent believer in British world-greatness—one of the most far-flung reaches of imagination that the modern world has seen. Cecil Rhodes, had his rich life conceived nothing else, would be great for this attempt—will be great, indeed, even if the plan fails.

Twenty-three years is, in world history, a very short period indeed. There has not yet been time for the fruition of this bold endeavor to create, through liberal British university education, a nucleus of world citizenship, of various national leaderships conducted, not narrowly, meanly, and selfishly, but with an international mind. If this goal can be attained, all praise to the leader who first thought out definitely an avenue of approach! If it cannot be attained, then, so desirable is it that hardly less should be the admiration due the dreamer who dared envisage an attempt.

The Rhodes scholars returning to America have, in truth, not yet touched the heart of the nation. Perhaps the gap to be bridged is greater than was conceived by Cecil Rhodes, or is grasped by the able present-day critic. They are, as a group, men set apart—among us, but not of us. They attract us, they charm us, they delight us. They are never awkward, never untactful, never offensive. We think of them, perhaps, as distinguished by a certain mildness. Their culture is evident, but it is not *our* culture. Perhaps theirs is the better; but, if it is, they do not know how to draw us to them vitally

enough to impart it to us. American culture is nervous, restless, forward-looking rather than content to rest on the past, interested in people and in things rather than in verbal presentations, economical of time, prodigal of restless effort, intensive rather than extensive, scorning leisure. We do not understand this Oxford mildness. Its harbingers are perhaps the last people among us to whom we would now turn for a national leadership.

Thus far, as it seems to us, a majority of the returned Rhodes scholars have returned to enter American college faculties. If this is true, the fruition of what Oxford has put into them will be delayed until their students go forth and rise to importance in American affairs. It is our impression, however, that in college faculties, as in society at large, the returned Rhodes scholars form an isolated group, not yet influential—in fact, almost out of tune with the general spirit of the faculties with which they are connected. Perhaps they constitute, here and in non-academic society, a slow-working leaven which will ultimately permeate everywhere. Twenty years has apparently, however, brought about very little indication of this. They are personally enjoyed, personally and professionally somewhat puzzled over and, as members of faculties, kept at a rather inferior level of academic appointments. American colleges are molded by a very few great American universities, and these are, in almost every respect, founded upon German, rather than British, academic ideals. Headships of departments and, in fact, nearly all full professorships go to teachers with the doctorate. No substitute whatever is acceptable. And the typical doctorate in America is repugnant to Oxford ideals. It stands for the highest degree of intensive knowledge of a very limited field. Often it negates the value of the humanities. It is impersonal, objective, unhuman, and often coexistent with egregious ignorance of other fields and general lack of culture and social poise. A typical Rhodes scholar might, of course, take it, but he shrinks from doing so. The consequence of his not doing so, however, is that he will teach undergraduates only, and the more-or-less routine courses, and will to a considerable extent have his influence on students undone by his academic superiors embodying a different ideal. He will have very little opportunity to mold American education.

America is still young. Its society will no doubt change, perhaps essentially, and so will its colleges. We must content ourselves, therefore, merely with pointing out present attainment, not undertaking predictions. Let us give the Rhodes scholarships a hundred years yet to run before we consider an accurate judgment of them possible. The vision of Cecil Rhodes will seem more marvelous, not less, if the plant he nurtured bears ripe fruit only after that length of time.

THE TOOLS OF THE TRADE

As the saw, the hammer, and the plane are to the carpenter, and the trowel is to the mason, so are textbooks to the teacher. They are his tools. With them and through them he works. By their manipulation, in large part, he creates the handiwork which is the product of his art. Yet it is always a shock and a surprise, even to those of us who through years of experience have come to know the school world well, to see how little acquaintance the typical teacher has with textbooks, textbook authors, the educational publishers, or the simplest and most directly useful reference books which might supplement his instruction. To say that he has a smattering of knowledge is to speak almost in superlatives. Nor are principals much better than teachers. Truly there is a long, long ladder for education yet to climb.

RESEARCH VERSUS PROPAGANDA IN EDUCATION

The application of the methods of individual psychology to Education in the form of standardized tests met with great enthusiasm a few years back. As the novelty of these new instruments wore off and as soon as it was generally found that tests did not immediately remedy many bad situations, or as soon as the discovery was made that they did not measure with complete accuracy what they were supposed to measure, many of their wildest supporters began to criticize the whole movement. In some quarters there has been a tendency to return to subjective methods in Education. This tendency can only be a temporary one. If Education is ever to make any progress toward becoming a science, it can do so only through great extension of the quantitative method. One has only to look about at the various theories and discussions concerning educational procedures which have been going on in an endless sort of way for years, and which are now no nearer solution than they were when first proposed, to see how fruitless the whole subjective method is. Many of these pet theories and discussions should have been settled long ago by their universal acceptance or rejection based on definite experimental evidence.

Enough has already come from the application of psychology and scientific methods in general to Education to assure us that a sound educational system can be built on a scientific basis. What is now

needed in Education is a renewed interest in and application of experimental and quantitative methods to school problems.

Teachers in training need less propaganda and more training in fact finding. The average teachers-college graduate is so bewildered by the many pet theories of his instructors that he hardly knows what to do or where to start when he meets an educational situation. A careful instructor is frequently asked by teachers in training, "Do you believe in so and so?" as though Education were a system of dogmas in which one's orthodoxy might be tested. Education as a doctrine leads nowhere but to endless talk; Education as a fact based on experimentation and quantitative methods leads to a definite system of procedures whose value cannot be doubted. Too many theories are presented as facts rather than as theories. It is necessary that theories be proposed, but no theory should be proposed without a statement that it is a theory. Neither should any theory be proposed without an unbiased *pro* and *con* statement in an impersonal way. Probably no theory should be stated (although we are, indeed, stating one now) without also a statement as to methods of experimentally determining the truth or falsity of the theory.

The next few years will unquestionably see a very great enlargement of the number of courses in teachers colleges dealing with experimental methods. Methods of instruction will probably change from the conventional lecture-quiz-discussion type of classroom procedure to the laboratory method. Laboratory methods need to be employed in studying not only the traits and abilities of the student, but also his environment and its control, his needs, his motives, his interests, methods of meeting his needs (teaching), etc. All of these can be taken out of the field of discussion and placed on a definite factual basis through the application of experimental methods.

What does all this mean for the student and the teachers college? The teachers college should provide more courses in the methods of experimentation in Education. The capable student should be encouraged to look forward to a productive career in his chosen field and should be advised to take such courses as will help him advance Education as a science. Again it may be stated: The educational world does not need disciples or followers after certain doctrines, but seekers after truth. Instead of setting up in a subjective way certain doctrines (sometimes called "principles" or "standards"), would it not be much better to set up methods of arriving at the obtainable facts of the case?

Many problems confront the forward-looking student. What sort of pabulum will the teachers college offer?

THE NEW BOOKS ON OUR SHELF

Mental Tests: Their History, Principles, and Applications. By FRANK N. FREEMAN (University of Chicago). Boston: Houghton Mifflin Co., 1926. Pp. xi + 503.

In this valuable book the author has attempted to cover a big field, as the subtitle shows, and he has included the leading mental tests of special abilities, aptitudes, and personality traits, as well as general intelligence tests. The history has been better done in two other books, and the applications in at least one. The rather full discussion of the principles underlying testing is the most valuable contribution of the book, and should be widely read. Unfortunately, the book bears many evidences of being hastily prepared. The historical part is painfully incomplete, when one considers the wide interpretation of "mental tests" adopted; moreover, it fails completely to reflect the early controversies of the '90's as to the nature of the tests to be employed for practical testing of general ability or "mental acuteness." Miss Sharp's crucial experiment, just at the close of this decade, is not even mentioned. As a consequence of this omission, Wissler's negative results are applied to all mental tests then in development, and a rather serious misinterpretation of the growth of the test movement in the early part of this century follows. It is necessary in such a work to inquire carefully into what each investigator was attempting to do. Some names in reference lists are wrong, and, owing to an error in the early dates on the covers of *L'année psychologique*, the author has dated a year too early most of Binet's early contributions. The treatment of Binet's work is seriously deficient, and his point of view poorly represented. The important work of Thomson in England, which has so effectively revealed the errors of Spearman's all too mathematical analysis of the organization of intelligence, is omitted. Space does not permit our consideration of several details of interpretations that are questionable, particularly in the chapter dealing with mental growth; but we cannot pass over one serious error, statistically, pertaining to method—that of stating group differences in terms of per cent of difference between central tendencies. This method, as I have indicated elsewhere, gives very erroneous results. Freeman rightly stresses the fact that intelligence tests show measurable effects of environmental influences, and he brings out well several difficulties in the interpretation of results of different tests. In attempting to cover so wide a field, about all the author can do with application to any field is to select a few cases of illustrative material for analysis. In some cases, as in considering differences between geographical and also between race groups, the data used are mostly old and seriously inadequate. But only those who have attempted to do similar work can know the difficulty of doing an ideal piece of work in this regard. The book merits careful study by educators and psychologists. J. P.

Everyday Doings at Home. By EMMA SERL (Kansas City Teachers College). New York: Silver, Burdett & Co., 1926. Pp. 128.

"A courtesy reader" for the first grade. The idea, the text, and perhaps particularly the illustrations (black-and-white), by Harry E. Wood, are charming. Skillful "study pages" to stimulate thought are interspersed.

Psychology for Teachers. By C. E. BENSON, J. E. LOUGH, C. E. SKINNER, and P. V. WEST (New York University). Boston: Ginn & Co., 1926. Pp. x + 390.

This book attempts to do three things which are not easy to combine into one successful volume. It aims to "set forth the psychology that teachers need for the specific work of teaching and of guiding the development of the mental life of growing children." But, also, "the entire text may be considered as a guide to study and learning." Finally, the content of the book shows that it attempts to cover practically all the conventional topics of general psychology. Rather than to represent any one system of psychology, the authors seek to integrate the various points of view—by no means an easy thing to do! As might be expected, the results are not always compatible, and disturb the reader if he remembers at any one time what he read on previous pages. For instance: "All habits are specific in character" (page 72). "As the question now stands, the psychologists almost unanimously agree that transfer does exist" (page 229). Then, the authors have given us several hundred rather dull formal questions: "Should all the senses be trained?" "Why is it difficult to read proof?" "How should you go about training the sense of hearing?" "What is an illusion?" "What is perceptual learning?" etc. The book is didactic, designed for the handling of large classes, rather than stimulating toward original attack and research. Unfortunately, that is what many normal schools want. This, then, is their book. J. P.

Individual and Mass Athletics. By S. C. STALEY (University of Illinois). New York: A. S. Barnes and Co., 1925. Pp. ix + 257. Price, $3.

An excellent book on material for college physical-training classes, especially for indoor use. A. D. B.

Outline of Abnormal Psychology. By WILLIAM MCDOUGALL (Harvard University). New York: Charles Scribner's Sons, 1926. Pp. xvii + 572. Price, $4.

The author of this book has had fitting preparation, both in training and wide experience, for the production of this valuable "outline." He has sought to bring together in a single volume what seem to him to be the soundest contributions in this field and to review and criticize the various theories in the light of his well-known hormic theory. While the reader will not always agree with the interpretations by the author, he cannot but be grateful for this summary of contributions to the understanding of abnormal behavior, so fully illustrated with cases from the experience of the author. It is unfortunate that the author's prejudice against modern "mechanistic theories" should blind him to many valuable contributions of this school of writers and to interpretations leading beyond the point where he must himself stop and point only to a sort of vague vitalism. Indeed, the differences between certain mechanists who also stress organic unity and McDougall are often not as great as he supposes, except that they can follow the facts further and can suggest more definite means of conditioning desirable forms of behavior. The book is one of the most valuable recent contributions to the literature of abnormal psychology, and is so closely related to the life of every individual as to challenge his interest. J. P.

King Arthur. By PAUL CRESWICK. Cincinnati: American Book Co., 1925. Pp. 423.

An exquisite retelling of the ever-fresh old stories. Supplementary reading—not to be overlooked—for the junior high school. Illustrations, in line drawing, full of suggestiveness and vitality. C. S. P.

Introduction to Social Psychology. By L. L. BERNARD. New York: Henry Holt & Co., 1926. Pp. xi + 651.

This book, written by a sociologist, takes the position that the influence of social environment is mainly responsible for the adjustment traits and mental equipment of the individual, and that it is a mistake to speak of instincts in the usual sense as unlearned reactions, a position developed more fully in the author's *Instinct.* The book is concerned mainly with the objective factors and the methods by means of which the individual becomes integrated into a personality that functions in complex society. The rather protracted theoretical discussions and the illustrative treatment, or samplings, of experimental investigation in psychology, rather than full and impartial consideration of available methods and data, as well as the author's well-known neglect of innate differences, greatly limit the value of the book to psychologists. There are many points at which one might well challenge the accuracy of specific statements—*e. g.*, a reflex "is a purely unconscious behavior process;" "the objective methods which he [the individual, in integrating his personality] employs are suggestion and imitation;" etc. Learning activities are seriously neglected, so far as their earlier phases are concerned. But the book has many good features and gives a useful summary of social processes in the integration of personality. For each chapter a very full bibliography is given. The reviewer believes that the book could be considerably improved by condensation and a more concrete presentation of data. J. P.

Elementary School Methods. By HORACE M. CULTER (Emporia, Kan., State Teachers College). Philadelphia: J. B. Lippincott Co., 1927. Pp. 382.

For the young teacher, in small-town or rural school. Simply, clearly, and attractively written. Ten chapters on general methods, twelve on the teaching of particular subjects.

Games, Contests, and Relays. By S. C. STALEY (University of Illinois). New York: A. S. Barnes and Co., 1924. Pp. viii + 354. Price, $3.

A textbook on material in motor activities under competitive conditions. An excellent text for teacher-training courses in Physical Education. A. D. B.

Psychological Studies. By THEODOR LIPPS (late professor in the University of Munich), translated by H. C. SANBORN (Vanderbilt University). Baltimore: Williams and Wilkins Co., 1926. Pp. 328. Price, $6.

This book is Volume II of *Psychological Classics: A Series of Reprints and Translations,* edited by Knight Dunlap. The studies include the monographs on The Space of Visual Perception, The Nature of Musical Consonance and Dissonance, The Law of Psychic Relativity, and Weber's Law. The monograph on consonance is of interest to students of music and esthetics as well as to psychologists; and the other two monographs, while mainly of historical interest, contain many things closely related to, and anticipating, certain present theories in psychology and physics. For example, the statements that "place is a relative notion; there is no absolute, but only a relative 'where,'" and that "a position or a 'where' is never determined by anything except relations," sound distinctively modern. The translation, by a former student of the author, is an excellent piece of work—clear and true to the conceptions of the author. In some cases, as in that of *unbewuszt* (translated *non-conscious*), the English equivalents have been so chosen as to conform with modern usage rather than with the more conventional translations. Dr. Sanborn has rendered an important service by making available to English readers these monographs by Lipps. J. P.

The Ability of the States to Support Education. By JOHN K. NORTON (Director of Research, N. E. A.). Washington: National Education Association, 1926.

This study offers an opportunity to each state to measure the effort it is making to support education. The measure of effort is defined as the fractional part of a state's economic resources lying back of each child which the state puts into educational expenditure. Economic resources is defined as income plus one-tenth of the state's wealth. "Facts have their meaning in terms of other facts," and each state may here see its own ability and its own effort compared to those of the forty-seven other states. The conclusions are conservatively drawn; and various "unmeasured factors" are discussed, thereby revealing certain fundamental problems of costs which are waiting further study. The only really disappointing feature of the study is that it employs the old, universally used unit of fiscal studies, "*raw costs.*" The next fundamental contribution to cost study—the contribution which will determine the direction of future fiscal studies—will be the one which will furnish a new unit. This unit must be a "produce-moment" one and must measure expenditure at the same time it measures what is obtained for that expenditure—a unit which will measure not only cost in dollars, but also the "achievement" secured by these dollars. The absence of this unit must be felt in weighing Dr. Norton's study. S. P.

Qualitative Analysis. By WILLIAM C. COOPER (De Paul University). Yonkers, N. Y.: World Book Co., 1926. Pp. viii + 142. Price, $1.52.

A book featured chiefly by its deliberate—and successful—attempt to use clear and simple language. Few paragraphs are more than five lines long. Points stand out separately and clearly. A unique form of skeleton outline of analysis is appended, using equations as a basis. The book is strictly a manual, and does not contain theoretical discussions. CARL G. CAMPBELL.

French Grammar. By ANDRE BEZIAT and WILLIAM MORTON DEY. Richmond, Va.: Johnson Publishing Co., 1927.

For classes whose aim is really to master the French language this is the best book that has appeared. Every important feature is begun, systematically continued, and completed—whether it be pronunciation, grammar, classroom French, conversation, composition, reading, or letter writing. In spite of its completeness and thoroughness, the book presents an easy progression and will delight teacher and class. A. I. R.

Problems in Blueprint Reading. By DREW W. CASTLE. Peoria, Ill.: The Manual Arts Press, 1926. Pp. 87. Price, $1.44.

A well-organized textbook for elementary blueprint reading for the student or workman. Arranged and written in a swift-moving style, saving the time of the student and giving him fundamental principles. L. L. G.

History of Manual and Industrial Education Up to 1870. By CHARLES ALPHEUS BENNETT. Peoria, Ill.: The Manual Arts Press, 1926. Pp. 461. Price, $3.50.

A very valuable book on the history of Industrial Arts for the student and teacher or for general information on the growth and development of Industrial Education. It supplies (in a unit) information which has heretofore been in short sketches and almost impossible for the average student to obtain. It is a thorough, penetrating, and concise treatment of the history of Industrial Education in all its phases. L. L. G.

Old Age Deferred. By ARNOLD LORAND. Philadelphia: F. A. Davis Co., 1926. Pp. xxxix + 500. Price, $4.

This is an eighth edition, translated and revised, from the third German edition. The author, a distinguished physician at Carlsbad, Czecho-Slovakia, has had extended experience dealing with people who, through excesses and unhygienic living generally, have been driven to the baths for cures or relief. The book, in its fifty-eight short chapters, discusses a great variety of topics relative to hygienic living, especially for elderly people. His chief effort, perhaps, is to show how the ductless glands influence vigor and the vital processes in general, how to regulate diet to prevent high blood pressure, and how proper elimination will prevent absorption of the poisons from internal putrefaction. From the twelve commandments given for the prevention of premature old age the following are here briefly stated:

1. To be as much as possible in the open air, and especially in the sunshine; and to take plenty of exercise, taking care to breathe deeply and regularly.
2. To live on a diet consisting of meat once a day, eggs, cereals, green vegetables, fruit, and raw milk of healthy cows (as much as the stomach will permit); and to masticate properly.
3. To take a bath daily; and, in addition, once a week or once every two weeks, to take a sweat bath (if the heart can stand it).
4. To have a daily action of the bowels; and, in addition, to take a purgative once a week if there is any tendency to constipation.
6. To go to bed early and rise early.
10. To get married; and, if a widow or widower, to marry again.

The Poetry Book. By MIRIAM B. HUBER, H. B. BRUNER, *and* C. M. CURRY. Chicago: Rand, McNally & Co., 1927. Nine volumes. Price, $8.10, set; $0.80, $0.90, and $1 each.

Most attractive supplementary readers, containing 875 poems, scientifically selected and graded. The work grows out of a *Teachers College* dissertation. By far the best collection now available; and poetry should, indeed, not be slighted in children's reading. Highly recommended.

An accompanying volume, *Children's Interests in Poetry* (price, $1.75), records the details of the scientific work of selecting and grading the poems. It is valuable for teachers colleges. C. S. P.

Educational Hygiene. By LAWRENCE A. AVERILL. Boston: Houghton Mifflin Co. Pp. xviii + 546. Price, $2.60.

A volume presenting briefly all the large topics of the various phases of hygiene—child, school, personal, community, and mental, as well as the pedagogy. Intended for a short course in a teachers college. Good; but we believe that a more extensive course is highly desirable.

The Orientation of College Freshmen. By HENRY J. DOERMANN (University of Porto Rico). Baltimore: The Williams and Wilkins Co., 1926. Pp. 162. Price, $3.

This book deals with a problem which is becoming more of a problem from year to year—that of freshman in the liberal arts college. The discussion is divided into three parts. Part I analyzes freshman orientation; Part II gives the methods now in use in handling the freshman problem; Part III outlines a guidance program. S. C. G.

The Third and Fourth Generation. By ELLIOT ROWLAND DOWNING (University of Chicago). The University of Chicago Press, 1918. Pp. xi + 164. Price, $0.75.

For young folks keenly alive to the facts of life, this book brings in simple, easily understood language the most outstanding facts and theories about heredity and eugenics. The saneness of the treatment is well indicated by the discussion of the Jukes and Edwards families, where Downing clearly states that both heredity and environment played parts in the results obtained. The book is so accurate that we are surprised at the lapses—as when he says (page 83), "Identical twins, which come from the separation of the fertilized egg at the two-celled stage, each cell producing one child," in total disregard of Newman's experimental work, and when he later (page 109) cites Boveri's earlier researches on Ascaris without reference to his later work. Boveri's later work showed his earlier interpretations to be erroneous. Perhaps the dogmatic presentation of Weismann's germ plasm theory is justified in an elementary book, in which statements must be positive, but it is far from the present-day opinion of most general physiologists. J. M. S.

Great Men and Famous Musicians. By JAMES FRANCIS COOKE. (Introduction by JOHN LUTHER LONG.) Philadelphia: Theodore Presser Co.

A valuable book, recommended for libraries. The judgments and appreciations of music and musicians which have been expressed by great men notable in widely various fields of achievement. Interesting, illuminating reading, not only for musicians, but also for those who have never stopped to consider the worth of music as a part of a general education. D. R. G.

Religious Education on Public-School Time. By FLOYD S. GOVE. Cambridge, Mass.: Harvard University, 1926. Price, $1.

A study outlining the historical background, considering various proposals which have been advanced, and presenting conclusions favoring week-day religious instruction on this plan. Unconventional. An extensive bibliography.

Introduction to Physiological Chemistry. By MEYER BODANSKY (University of Texas). Brooklyn: John Wiley & Sons, Inc., 1927. Pp. vii + 440. Price, $4.

Acting on the entirely justified assumption that a book of medium size is more effective than a large one, the author has written a volume that is simple enough for use as an introductory text, yet comprehensive enough to cover the field. The book is particularly up-to-date on the chemistry of newly discovered functions, such as the endocrine glands, and the effects of starvation, the transplantation of glands, etc. The characteristic excellent typography of the Wiley texts is in evidence in this one.

Life-Shortening Habits and Rejuvenation. By ARNOLD LORAND. Philadelphia: F. A. Davis Co., 1925. Pp. 283. Price, $2.50.

There are three parts to this book. The first sets forth what the author believes to be the "Ten Chief Life-Shortening Processes;" the second, the seven causes of the "Rapid Aging of Women;" the third, the methods and processes of "Rejuvenation." It is a helpful book and should be widely read, especially by discriminating adults. The author's recent experiments with ultra-violet rays, to determine their effect on rejuvenation processes, are discussed and their striking results described. He has made helpful contributions in this realm of hygiene. The book is well written. F. B. D.

Measurement of Intelligence by Drawings. By FLORENCE L. GOODENOUGH (University of Minnesota). Yonkers, N. Y.: World Book Co., 1926. Pp. xi + 177. Price, $1.80.

This book, a number in the Measurement and Adjustment Series, presents the work of Dr. Goodenough in developing and standardizing an intelligence test which consists simply of the drawing of a man. Objective methods of scoring were developed by an empirical method, guided by a careful analysis of previous work in the spontaneous drawings of children. The validity of the test as a measure of intelligence has been shown, by correlation with other standard tests, to be encouragingly high, and the reliability, as determined by re-tests, is over .90. The author's work shows in a striking manner the value of a thorough objective analysis of child behavior, and it is an important contribution to psychology. The test has the great advantage of being independent of language factors, and it also shows, according to the author, surprisingly little influence of regular school instruction in drawing. The test is designed for kindergarten and primary grade children. It is easy to administer and requires only about ten minutes. Drawing sheets with key are supplied by the publishers. J. P.

Research for Teachers. By BURDETTE ROSS BUCKINGHAM (Ohio State University). Newark, N. J.: Silver, Burdett and Co., 1926. Pp. v + 386. Price, $2.20.

This important book, by a man of wide experience with leaders in educational research, as well as with teachers, attempts to put the teacher into possession of modern methods of testing intelligence and specific educational acquirements and of analyzing and objectifying the learning processes involved in school work, and to inform him of the various devices and means now available for reaching the child on the basis of his own peculiar nature and for diversifying and enriching the educational processes to meet the several needs of all the children. The book stresses the great opportunities of teachers to become research workers and efficient specialists in the great work of education. J. P.

Progressive Trends in Rural Education. By A. D. MUELLER (Massachusetts State Normal School). New York: The Century Co., 1926. Pp. xxxii + 363. Price, $2.

A good digest of much of the literature concerning rural schools, considering most of the important topics. A few topics are passed over lightly—e. g., finance, special methods for rural schools, etc.—but concerning these little is now being published. The book is of special value to school men who lack recent training in rural education. N. F.

Self-Direction and Adjustment. By NORMAN FENTON (Ohio University). Yonkers, N. Y.: World Book Co., 1926. Pp. vi + 121. Price, $1.40.

This new addition to the Measurement and Adjustment Series is a simple, concrete, and practical scientific treatment of the best available materials and methods of self-adjustment to the complex conditions of present-day educational institutions. It embodies actual tests by which the student can arrive at a fair estimate of his own intellectual ability, and is adapted to the use of both high-school and college students. It is desirable that the how-to-study-and-improve-yourself literature shall not become so extensive as to take much of the student's time from study of subject matter. This book condenses such literature and "helps" into about the "minimum essentials," and can be highly recommended to students who seriously plan to make the most of their opportunities. J. P.

An Introduction to Biology. By ALFRED C. KINSEY (Indiana University). Chicago: J. B. Lippincott Co., 1926. Pp. xiv + 558.

On the whole, Kinsey is rather orthodox in his selection of subject matter, erring probably in including too much variety of material for adequate treatment in the space available. The style and treatment seem better fitted for more advanced students than for high-school beginners, and are hardly up to the standard set by Moon, Hunter, and others. The illustrations are excellent, but the "I" type of stories, it seems, could have been replaced to advantage by stories drawn from historical sources. Best suited to those schools wishing to stress the "essentials." J. M. S.

The Practical Teacher. By CHARLES ELMER HOLLEY. New York: Century Co., 1927. Pp. 306.

A handbook of teaching devices, suggestive and helpful. Full of concrete suggestions.

After Testing—What? By HOBART M. CORNING. Chicago: Scott, Foresman and Co., 1926. Pp. ix + 213.

A statement of a successful experiment in the schools of Trinidad, Col. The title is somewhat misleading, since the book merely describes the methods and results of a testing program in Trinidad. The purpose of the testing program was to effect a reorganization of the schools on the basis of the mental ability of the pupils. Pupils were assigned to various sections within a grade on the basis of ability to do the work required. One looks in vain, however, for a chapter on diagnostic and remedial measures. S. C. G.

Extra-Curricular Activities. By JOSEPH ROEMER and C. F. ALLEN. Chicago: D. C. Heath & Co., 1926. Pp. v + 333.

This book attempts to organize a new educational program in harmony with the newer ideals of educational leadership. The book contains twenty chapters, dealing in a practical way with the various extra-curricular activities of the school. Much space is given to actual school situations from which the principles set forth in the book were secured. A most commendable feature is the complete bibliography. This is placed in the back of the book and arranged by chapters. The authors have produced a valuable addition to the literature in this field. S. C. G.

Biology for Beginners. By TRUMAN J. MOON. New York: Henry Holt and Co., 1926. Pp. viii + 664.

A good textbook—largely of the "essentials" type. A small amount of space is devoted to health and to the civic phase of the subject. The style is unusually clear and well adapted to beginners. The necessary technical words are defined at the beginning of each chapter. In view of the part words play in the learning process, it seems rather unfortunate that the pronunciation and derivation of these words were not also given. The figures and diagrams are the clearest and best that the reviewer has seen in any high-school biology. There is perhaps too much small type for eyesight conservation. J. M. S.

In Old California. By EDITH KIRK FOX. New York: Macmillan, 1927. Pp. 158.

An attractive third-grade supplementary reader, written by a California teacher in the third grade and illustrated (cut-out work) by her pupils.

Thinking, Speaking, and Writing. By DONALD L. CLARK and BENJAMIN VEIT, with three collaborators. New York: Silver, Burdett & Co., 1927.

A three-book language series for the junior high school. The series is solid, touching almost everything in language and composition, but essentially emphasizing grammar, including no small amount of diagraming. It seems to us to be heavily academic—to have, in fact, little vision of the spirit of the best modern teaching in the junior high school. C. S. P.

Our Language. By JAMES P. KINARD, MARY BROWN, and FLORENCE H. ROGERS. New York: Macmillan Co., 1927.

A very attractive three-book series, covering well all the phases of language and composition throughout the grades. Modern, yet strong in grammar. Notable for the illustrations and for a pleasing arrangement of the pages and skillful typography.

Modern Familiar Essays. Edited by W. M. and D. B. TANNER. Boston: Little, Brown & Co., 1927. Pp. 368. Price, $1.75.

A collection of forty-eight modern informal essays, American and British, with valuable editorial materials, including biographies, a bibliography, and a list of subjects for familiar essays which students may write.

Selections from Edmund Burke. Edited by LESLIE N. BROUGHTON. New York: Charles Scribner's Sons, 1925 (The Modern Students' Library). Pp. xlvi + 469.

Ten writings, complete or in part, giving a good view of Burke's important works.

Modern Educational Theories. By BOYD H. BODE (Ohio State University). New York: The Macmillan Company, 1927. Pp. 351.

A refreshing book by a critic who hits hard and yet is always constructive. Altogether worth reading. What a joy to hear some one speak up who isn't swallowing all the fads we are being fed! C. S. P.

Learning How to Study and Work Effectively. By WILLIAM F. BOOK (Indiana University). Boston: Ginn and Co., 1926. Pp. xviii + 475. Price, $1.96.

This is one of the many new books dealing with learning and studying. It is much more than a mere outline of procedure to be followed in learning to study. The author has written a valuable text on the subject, and we predict a rather wide adoption in reading-circle and teacher-training work. The chapter on developing an interest in one's work is especially good and should be read by most teachers. S. C. G.

A New Approach to American History. By D. C. BAILEY. Chicago: University of Chicago Press, 1927. Pp. viii + 82. Price, $1.50.

This new approach to American history is valuable for and suggestive to the history teacher. The subject matter is organized on the basis of large units. Guide sheets give: (1) a brief presentation, (2) assimilative material, (3) problems, (4) projects, (5) maps, and (6) references for reading and study. Six large units, based on important periods in American history, are outlined. This new approach substitutes the laboratory idea for the recitation or lecture method. The work is organized along the principles of teaching advocated by Henry C. Morrison in his *Practice of Teaching in the Secondary School.* F. P. W.

Geography, Europe and Asia. By H. H. BARROWS, E. P. PARKER, and M. L. PARKER. Newark: Silver Burdett & Co., 1927. Pp. vii + 280.

One of a series, of which *Journeys in Distant Lands* and *United States and Canada* are preceding volumes. As in the others, a unique use of airplane photographs has been made, giving really adequate ideas of cities, particularly as ports, railroad terminals, etc. People, homes, and factories are also emphasized pictorially.

Social Work a Family Builder. By HARRIET TOWNSEND (Columbia University). Philadelphia: W. B. Saunders Co., 1926. Pp. 247. Price, $2.25.

Many books have been written for social workers, but it has remained for Miss Townsend—aware that the professions of social worker, public health nurse, home economist, and special teacher are becoming more and more interwoven and interrelated—to write a book particularly for the allies to the social worker. Her purpose is to give them a social viewpoint; to give them an understanding of the principles of family case work, which she analyzes step by step and uses case histories to illustrate. She describes the evolution of modern social-work methods from the old-time benevolence; discusses present-day social problems—the assimilation of the immigrant population, housing conditions, child labor, standards of living, etc. Lines of thought are opened up by suggested reading, by which the reader is stimulated to further research.

Drums of Morning. By HENRY NEUMANN (Brooklyn Society for Ethical Culture). Boston: Little, Brown & Co., 1926. Pp. xxi + 242. Price, $0.80.

Inspirational readings—poetry and prose—selected and classified, not by chronology, author, or literary type, but for the effect to be wrought in the young reader. There are 118 selections, classified under thirteen suggestive headings. An able book.

C. S. P.

Short Plays from American History and Literature. By OLIVE M. PRICE. New York: Samuel French, 1925. Pp. xiii + 245. Price, $1.75.

Six plays and a pageant for elementary-school pupils. They may be presented without royalty, and with costumes and properties made by the children.

Objective Tests in High-School Subjects. By GEORGE FREDERICK MILLER (University of Oklahoma). Norman, Okla.: George F. Miller, 1926. Pp. 168. Price, $1.

This study presents objective tests in the following subjects: Algebra, biology, chemistry, civics, English, French, history, Latin, and physics. The purpose of the book is "to illustrate how objective tests of various types can be used in regular classroom examinations in high-school studies." The tests given in the book, while not standardized, are well selected and illustrate the several types.

Instructional Units in Wood Finishing. By R. A. MCGEE and A. G. BROWN (Stout Institute). Milwaukee: Bruce Publishing Co., 1927. Pp. 128. Price, $1.60.

A practical and interesting little book answering a specific need. All modern types of finishes are discussed in detail so clearly that no student of woodwork should experience difficulty in applying a desired finish. Numerous illustrations add much to the clearness of technique. An excellent text for woodwork classes in secondary schools and a good reference for any home economics class.

B. S. HOLDEN.

Shakespearean Studies Simplified. By FREDERICK WARDE and B. F. SISK. Fort Worth, Texas: Pioneer Publishing Co., 1925. Pp. 189.

A handbook of useful information about Shakespeare, the Shakesperean plays, and some of the great actors—among whom the author includes himself.

Study Plans for Novels. By ALFRED M. HITCHCOCK. New York: Henry Holt & Co., 1927. Pp. 348.

Plans, intended to guide inexperienced teachers, for leading pupils to understand and enjoy four novels—*A Tale of Two Cities* (ninth or tenth grade), *Quentin Durward* (tenth or eleventh grade), *Silas Marner* (eleventh grade), and *House of Seven Gables* (eleventh or twelfth grade). Excellent materials and advice.

Descriptive and Narrative Projects. By D. DAVIS FARRINGTON (Hunter College, New York). New York: Thomas Y. Crowell Co., 1926. Pp. 320. Price, $2.50.

The project method applied to college composition. A really creative book, blazing a new trail in college teaching. It stands, in our judgment, in a class by itself. It will not be widely adopted, for the colleges, though advancing, are not yet ready for it—and its publishers, high-grade though they are, are not aggressive salesmen to the school world. This is real composition, not hack-work. C. S. P.

My Work Book in General Science. By ELLIS C. PERSING and KIMBER M. PERSING. Cleveland: Harter School Supply Co., 1927. Pp. 127.

A manual of experiments—the type in which students fill in the blanks. The selection of material is largely from the home and community, which is just as it should be. Numerous diagrams. H. A. W.

More One-Act Plays. Edited by HELEN LOUISE COHEN. New York: Harcourt, Brace & Co., 1927. Pp. 385.

Fourteen plays, supplementing the earlier, well-known collection by the same editor, equipped with excellent introduction and bibliographies.

Teaching as a Profession. By MATTHEW J. WASH. New York: Henry Holt & Co., 1926. Pp. 387.

Fourteen chapters, subdivided into numerous topics, on the ethics and ideals of the profession. Helpful.

Modern Essays. Edited by CHARLES A. COCKAYNE. *Old Testament Stories.* Edited by WALTER L. BENNETT. *Shakespeare's A Midsummer Night's Dream.* Edited by MILTON M. SMITH. New York: Charles E. Merrill Co., 1927.

Three new, attractive numbers in the well-known "Merrill's English Texts."

The College Book of Verse. Edited by R. M. GAY. Boston: Houghton Mifflin Co., 1927. Pp. 650.

An ample anthology in a pocket-size volume, 4x6¾ inches, ¾-inch thick. There are about 400 poems, arranged by historical periods and dated; brief vocabulary notes, when needed, at the bottom of the page. Well indexed, including subjects, types, forms, and technique. Includes English and American poets. Well-balanced. An excellent, well-considered choice of writings. The pages are uncut—a manufacturing detail only, but an unsuitable feature, we think, in a textbook. C. S. P.

Essays Old and New. Edited by ESSIE CHAMBERLAIN. New York: Harcourt, Brace & Co., 1927.

Forty-one essays, edited with excellent apparatus for modern high-school use.

Essays by William Hazlitt. Edited by CHARLES H. GRAY. New York: Macmillan Co., 1926.

A number in the "Modern Readers' Series." Twenty-five "familiar" essays, with notes and a general introduction. Of strong biographical purport; an unusual, revealing selection; the well-known essays on literature, the fine arts, drama, and Shakespeare are not included.

Four Centuries of Literature, English and American. Edited by ALLAN WESTCOTT, CHARLES LEE LEWIS, and CARL J. WEBER. Boston: Little, Brown & Co., 1925. Pp. xix + 762. Price, $3.50.

An anthology of poetry and prose, covering English literature from Sir Thomas Malory on and American literature beginning with Bryant. The arrangement is chronological, by periods, English and American occupying separate sections of the book. At the end, 110 pages are given to Aids to Study. A very wide selection of materials.

Theatre Practice. By STARK YOUNG. New York: Charles Scribner's Sons, 1926. Pp. 208.

Nine chapters, by a recognized authority, on the art of acting. Simply written, not too technical. Very specific, illuminating comments. Valuable for a course in modern drama or in dramatic presentation.

Evolution and Religion in Education. By HENRY F. OSBORN. New York: Charles Scribner's Sons, 1926. Pp. xiii + 240. Price, $2.

A collection of the author's public utterances during the heat of the Scopes trial. Vigorous, but not sarcastic; spirited, but in a charitable mood. The only purpose is to present evidence and combat dogmatism.

The Harvard Tests: High-School Chemistry; Forms A and B. By HENRY L. TERRY (Teachers College, of the City of Boston). Boston: Ginn & Co., 1927. Price, per pad, $0.48.

These tests represent the modern testing method. Not only are complete directions given to examiners and scorers, but useful descriptions of the tests and class records are included. By means of these tests, objective measures of relative attainments are possible, as well as satisfactory placements for freshman college students. These are particularly useful for young teachers, but are best interpreted by the more experienced. C. G. C.

Bread Loaf Talks on Teaching Composition. By ALFRED M. HITCHCOCK. New York: Henry Holt & Co., 1927. Pp. 120.

Five delightful chapters, originally talks in a summer school—something to say; somebody to say it to; ability to say it; words; and digging up ideas.

Modern History. By SEVERE E. FROST. Fort Worth: The World Co., Inc., 1924. Pp. 78.

Seventeen lessons in modern European History—from the Peace of Augsburg (1555) to the Treaty of Lausanne (1923). The same general plan is followed as in the author's Ancient History. F. P. W.

Automotive Electricity. By GEORGE A. WILLOUGHBY (Arthur Hill Trade School, Saginaw). Peoria, Ill.: The Manual Arts Press, 1925. Pp. 128. Price, $1.40.

This is (1) a clear explanation of the principles of electricity; (2) a description of automotive electrical equipment and its operation; (3) a discussion of possible automotive electrical troubles and their remedies. Though planned as a test for the upper grades and high school, and particularly appropriate for such classes, it is an excellent condensed treatise that can profitably be used by any automobile owner. T. T. L.

Economics for Secondary Schools. By EUGENE B. RILEY. Boston: Houghton Mifflin Co., 1926. Pp. 310.

A well-written, concise text, good for a rapid survey. Unless abundant supplementary reading material is available, however, it is, in our judgment, too brief in its statements for elementary students to understand. O. C. A.

Intramural Athletics. By ELMER D. MITCHELL (University of Michigan). New York: A. S. Barnes and Co., 1925. Pp. x + 191. Price, $2.

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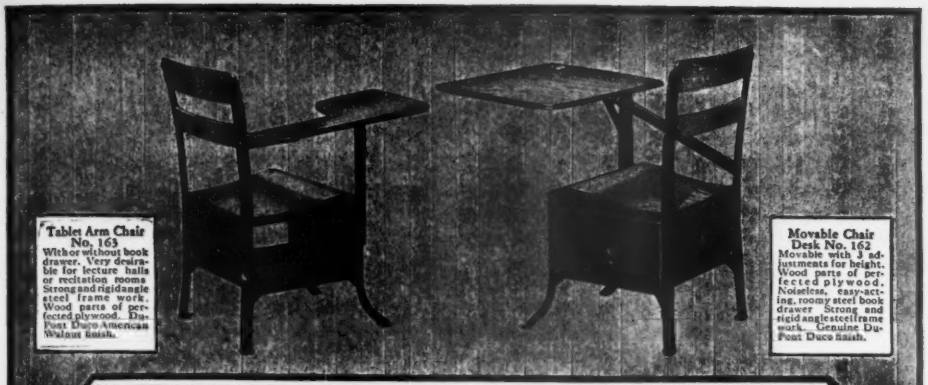

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Calisthenics. By S. C. STALEY. New York: A. S. Barnes and Co., 1926.

The book contains considerable material, which is well organized and presented, for those who have great confidence in calisthenics in a physical-training program. For others it is merely a contribution for further study in order to arrive at the proper evaluation of calisthenics. A. D. B.

Science Readers for Silent Reading. Book III, "Baby Animal Zoo," pp. 246; Book IV., "Animal Life," pp. 223; Book V, "Makers of Progress," pp. 208; Book VI, "Early Men of Science," pp. 240. By WILLIAM L. NIDA and STELLA H. NIDA. Boston: D. C. Heath & Co., 1926. Price, 88 cents each.

Delightfully written stories that cultivate an interest in both animal life and man's achievement. Intended for a child's instruction and pleasure. Why, indeed, should "The Three Bears" be practically the only animal story? The numbering of a book suggests the school grade in which it may serve best.

Spoken English and How to Teach It. By ELIZABETH W. BAKER and ALFRED I. ROEHM. Chicago: Rand, McNally & Co., 1926. Pp. 178.

An able book by two members of the faculty of George Peabody College for Teachers. Nine good chapters on the teaching of speech for social purposes.

The Normal Course in Play. Prepared by the PLAYGROUND AND RECREATION ASSOCIATION. New York: A. S. Barnes and Co., 1925. Pp. x + 261. Price, $2.

This is the best book on the market covering the function and administration of play and recreation. It is thorough and well organized in content and method. Excellent for teacher-training courses. A. D. B.

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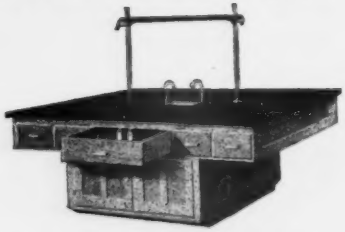

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